

Clinical Medicine and Surgery

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★ *Editorial* ★

Philip Syng Physick

Father of American Surgery

THERE seems to be a general impression, even today, that surgeons tend to be rather cold-blooded and brutal. Such an idea is far wide of the truth and was so, as a general proposition, even when surgery was almost wholly an art, and before it was made humane by the discovery of anesthetics and asepsis. The "Father of American Surgery" was, indeed, a man of conspicuous kindness, gentleness, and urbanity, even in a day when those qualities were highly prized as the distinguishing marks of a gentleman.

The background of Philip Physick's environment no doubt contributed materially to his success. His father was a wealthy Englishman of high social rank, who came to America in its early days and was intimately associated with the Penn family, so young Philip, who was born July 7, 1768, began life under most gracious auspices and moved among people of culture and refinement all the days of his life.

When he was eleven years old he was sent to a Quaker school and, in due time, to the University of Pennsylvania, where he received the degree of Bachelor of Arts in 1785.

In those days, surgery was in process of becoming a respectable calling and, for some reason (perhaps because Philip's hands were strong and dextrous), his parents decided for him that he was to become a surgeon, and sent him to Dr. Kuhn, then professor of the theory and practice of medicine at the University of Pennsylvania, to learn the fundamentals.

The provincial education available in the raw, new Land did not, however, satisfy people of the

substance and quality of the Physicks, so Philip's father took him to England, in 1789, to complete his medical and surgical studies and, by his social influence, arranged for the boy's acceptance as a personal and special pupil of the famous John Hunter. It is related that, when Mr. Physick asked Hunter what books his son would need, that teacher of great surgeons led the astonished pair to the dissecting room and, pointing to the corpses, answered, "Sir, there are the books your son must study!"

Hunter gave young Physick exceptional opportunities to show his ability, which he proceeded to do; and when, after a year as house surgeon at St. George's Hospital, this promising pupil received the diploma of the Royal College of Surgeons, he became, for a time, Hunter's personal assistant, until, in 1791, he went to the University of Edinburgh to complete his formal medical education, receiving his degree of Doctor of Medicine the next spring.

Soon after his graduation, Dr. Physick returned to Philadelphia and began to practice, but had few patients until the epidemic of yellow fever reached that city in 1793, when his services were so successful that he became physician to one of the hospitals, though he almost lost his life from the disease which actually started his medical career. As a matter of fact, he contracted the disease again during the next Philadelphia epidemic, and was never a well man thereafter.

In 1794 he was appointed surgeon to the Pennsylvania Hospital, and this was only the first of a succession of professional honors, which included:

physician extraordinary to the Philadelphia Alms House Infirmary; president of the Phrenological Society of Philadelphia (1822) and of the Philadelphia Medical Society (1824); member of the Royal Academy of Medicine of France (1825)—he seems to have been the first American to receive that honor—and honorary member of the Royal Medical and Chirurgical Society of London (1836).

Physick wrote little (no books whatever), and such of his writings as did appear were brief and to the point. He seems to have had a certain contempt for men who wrote long and rambling articles and padded books.

It was through the efforts of this man that, in 1805, the chair of surgery was separated from that of anatomy in the University of Pennsylvania, and he was the first to fill it, retaining his professorship until about 1820, when failing health compelled him to give up teaching. To this task he brought from Europe the most modern ideas, techniques, and instruments, and he made himself familiar with them all. He was, moreover, a bold, but careful, precise, and resourceful operator of the days before antiseptics and anesthetics.

Several important contributions to medical knowledge were made by Dr. Physick, as well as a number of improvements in the existing instruments. He was an expert lithotomist (one of his patients for this operation was Chief Justice John Marshall) and seems to have treated cataract by a modern method—extraction of the diseased lens. He was the first man to perform the operation for artificial anus and to describe diverticula of the rectum; he is probably best remembered, however, for having been one of the first, if not the very first, to use absorbable ligatures made of buck and kid skin, and the first to wash out the stomach with a tube and syringe. He was always an enormously hard and sincere worker, often rising at four o'clock in the morning.

The name of Philip Syng Physick, the surgeon, who passed to his rest December 17, 1837, stands along with that of Benjamin Rush, the physician, in the list of the notable men who established the practice and teaching of medicine in the United States. From our modern point of view these great pioneers may have made many serious mistakes, but one wonders if our present-day practices will appear as basically and generally reasonable, to the clinicians of A.D. 2,040, as those of these older physicians and surgeons now seem to us.



What we *are* is much more important than what we *say*.
—BISHOP IRVING S. COOPER.



Research and Prices

THERE are many thoughtless people (some of them even in the medical profession) who can be heard to remark that some of the newer and highly potent remedies are entirely too expensive; and this in spite of the fact that many of these drugs

will produce a prompt, positive and harmless amelioration of symptoms which, formerly, could not be so satisfactorily relieved at any price.

Think of the barbituric anesthetics and hypnotics; the purine diuretics; the highly developed arsenicals; the local anesthetics and analgesics; the serums, vaccines, and nonreacting non-specific proteins; the remarkable endocrine products; and dozens of other things. All these are actually, grain for grain, decidedly costly; but relative to the comfort, safety, and health which they bring, they are about the cheapest things we can buy.

And in thinking of the actual cost of these medicaments, let us remember that most of them were discovered or invented by highly trained chemists and pharmacologists, whose time and knowledge are so valuable that they must be paid for at a high price, working, over long periods of time, in the research laboratories of pharmaceutical manufacturers, and occasionally (but not very often) producing a new compound which is safe enough and powerful enough to warrant its being placed on the market.

Think of Ehrlich, who prepared 605 synthetic arsenicals before, at the 606th experiment, he produced Salvarsan, and 308 more before Neosalvarsan (or neoarsphenamine), 914 came into being. Think of the months of field work along the Pacific coast, which had to be done, at heavy expense, before haliver oil came to replace or supplement cod-liver oil in the treatment and prevention of the wide-spread and frequently disastrous deficiencies in vitamins A and D. These romantic adventures have been repeated in connection with practically all of the remarkable newer drugs which we use with so much confidence but so little imagination.

As society is at present constituted, the only way to have a piece of worthwhile work done promptly and efficiently, is to turn it over to some intelligent, energetic, and trained man (or let him start out upon it of his own initiative), and show him that he can receive a reasonable remuneration for the time and effort expended. If we had had to wait for the drugs, machines, and appliances which have made possible the recent astonishing advances in medical practice, until official or privately endowed institutions got around to figure them out, many of our most helpful remedies would still be in the womb of the future.

So when we pay a dollar, or two, or five, for a package of medicine which will do the work which we and our patients want done, more quickly, more certainly, more effectively, and more safely than any of its cheaper substitutes, let us not think that we are buying so many grains or cubic centimeters or ounces of some drug, but that we are purchasing a portion of the time, the knowledge, the creative imagination, the inspired enthusiasm of many trained, courageous, and patient men, who have labored in many places in order that physicians might have more satisfactory weapons for use in their unceasing warfare with pain, and suffering and death, throughout the world.

Appendicitis

THE death rate following appendectomy in this country has given rise to much serious and well-merited discussion of late, for it seems shockingly high, under modern conditions of surgery. Obviously, something is seriously wrong with our ideas of pathology, or our diagnosis, or our treatment, or all of them, but nobody seems to have found the solution of the problem, up to now.

Perhaps we are unduly optimistic, but we have the feeling that the careful study of two articles appearing in this issue may possibly offer a method of approach that will make a real difference in our results.

Mr. Batchelor's logical and closely-reasoned presentation of the pathology of appendicular disease may not be a wholly new idea, but it certainly has not been understood nor accepted by the vast majority of American physicians, and we can see no flaw in it. If any of our readers can find one, we shall be glad to hear from them, with detailed statements of their objections.

However, his dictum that a perforated appendix is a *contraindication* for surgery will not meet with ready acceptance by our enthusiastic laparotomists, nor with the public which they have educated to believe that such cases call for instant surgical intervention. Even though he may be entirely correct, it will take a deplorably long time for his idea to gain general acceptance here, for reasons, some of which are not too creditable to our surgeons.

On the other hand, it may be that our distinguished British confrere is not familiar with the suggestions here presented by Doctors Bain and Feagles, and that, when he has had an opportunity to try their method, his opinion may change.

Meantime, Mr. Batchelor's thought-compelling article should stimulate every physician (especially the general clinician) who sees these cases early to sharpen his powers of observation and his diagnostic diligence, in order to recognize appendicular obstruction *before* perforation has taken place, and strengthen his resolution to operate (or see that an operation is performed) *without delay*; while in the cases seen late (as too many, unfortunately, are) the method of Bain and Feagles, may result in producing that reinforcement of body immunity which our keen British friend considers as the indispensable factor in recovery after perforation has occurred.

It truly seems that a combination of these two ideas may result in a reduction of our depressingly high mortality rate in these very common cases.



Progress in surgery is marked by the fewer number of operations performed.—LORD MOYNHAN.



Cancer Control

SECOND only to heart diseases as a killer and most feared of all causes of death, cancer is, in its early stages, one of the most curable of serious diseases.

Its definite diagnosis requires the services of a highly trained pathologist, but early symptoms, which may mean that the disease is present, are easily recognized by any alert individual. Once cancer is diagnosed, the preferred treatment is by a group of specialists, and yet the key man in the whole picture of cancer control is the general practitioner, to whom patients come for periodic examinations or for advice about apparently harmless conditions. While late cancer causes considerable suffering, in the early stages it is nearly always painless.

Four years ago a small group of physicians, research workers, and club women launched the Women's Field Army of the American Society for the Control of Cancer. Its goal was to reduce cancer mortality and, by educational efforts, to arouse the interest of men and women everywhere in this disease and the methods and facilities available in their communities for treating and controlling it, by proving to them that between one-third and one-half of those who now die could and should be saved by early diagnosis and prompt treatment.

The growth of the Women's Field Army has been rapid. Divisions are now under way in forty-six states, and cancer information centers have been established in more than half the counties of the country. Cancer control is receiving more attention now than ever before.

A beginning has been made, but only a beginning in this peacetime war. Approximately 150,000 men, women, and children were destroyed by cancer in 1939. The needs in the field are great: more clinics, more funds for research, more facilities for indigent patients, above all, more education for the general public.

Working under the supervision of physicians and other experts, women are the leaders and organizers of the fight against cancer. However, one of the paradoxical things about this complex disease is that the problems of its control cannot be left wholly to leaders, to research workers, or even to medical men. All enlightened people must take part in the work.

The Field Army suggests three measures that each individual may adopt, and so play a part in cancer control:

1.—Have a comprehensive physical examination once a year, however well one feels. Women over thirty-five years of age should have what the American Society calls the "B.P. Examination," covering the breast and pelvic areas, semi-annually.

2.—Memorize the cancer danger signals—early and usually painless symptoms that *may* mean that the disease is present and should *always* mean a visit to a physician. These are: any persistent lump or thickening, particularly in the breast; any irregular bleeding or discharge from any body opening; any persistent and unexplained indigestion; any sore that does not heal normally, especially about the tongue, mouth or lips; any sudden change in the form or rate of growth of a mole or wart.

3.—Enlist in the Women's Field Army in April, set aside by special act of congress as Cancer Control month, and so help the Army carry on its work of education to save lives.

Always remember that *early is the watchword in cancer control.*

Encouragement, if it is wise and honest, is the best advice in the world.—DONALD CULROSS PEATTIE.

Easter

ABOUT this time of year the Christian world celebrates the church festival known as Easter, supposed to commemorate the physical resurrection of the Master Jesus. That the feast is not an actual anniversary of an historic event is, however, proved by the fact that it does not always fall upon the same day, but is reckoned, according to the edict of the Council of Nice (325 A.D.), as the first Sunday after the first full moon on or following the vernal equinox (March 21). Easter may be on any date between March 22 and April 25. It fell on the former date in 1761 and in 1818; and on the latter in 1843 and in 1886.

Those who believe that Easter is a strictly Christian festival are uninformed on the subject. Great feasts have been used to celebrate the vernal equinox—"the resurrection of the world from the death of winter"—from time immemorial, and many of the customs connected with the day (such, for instance, as the distribution of "Easter eggs") are, without doubt, of pagan and pre-Christian origin. Even the English name for the festival is probably derived from Eastre—a Saxon goddess whose feast was celebrated in the early springtime.

The Jewish church also has one of its chief celebrations—the Feast of the Passover, or Paschal Feast—at this season, and the great candles now lighted on Holy Saturday, by all branches of the Catholic Church, to burn until Ascension Day, are called paschal tapers. Moreover, the Spanish name for Easter—*Las Pascuas*—derives from the Jewish feast.

The idea of a feast after a period of fasting (Lent, in the Christian Church) is also adopted by the Mohammedans, though their month of fasting, known as Ramadan, falls in the ninth month which, since their year is lunar instead of solar, comes around to the vernal equinox once in 33 years.

The Easter-egg is said to have originated in Persia, though the earliest significance of the custom is not known. In some times and places the egg has been regarded as a symbol of resurrection; and in old times, in England, the Easter-eggs were blessed by the priests and kept as amulets.

The charming custom of sending greetings to friends at Eastertide probably had its origin in the Easter kiss, which was popular some centuries ago. Following this conventional osculation, the kisser exclaimed "*Surrexit*" (He is risen); to which the kissee responded, "*Vere Surrexit*" (He is risen indeed).

It is not at all strange that the vernal season has been greeted with rejoicings, by all peoples and in all times. The re-awakening of the world's life, after the stark and forbidding rigidity of winter, could scarcely fail to call forth exuberant thankfulness. Nor is it strange, when we remember that all of the world's great religions have originated north of the equator, that

the return of life and activity should be attributed to the intercession of some god or goddess, and so tied up with the worship of the time.

When Christianity was in its infancy, it seemed expedient, in order to hold the interest of the early converts, to make the festivals of the Church correspond, as nearly as was practicable, with those to which they were accustomed: So we have our Christmas at the winter solstice and our Easter (or Passover) at the vernal equinox.

When we celebrate this feast, it should make our satisfaction all the greater to remember that we are following the precedent set by our ancient forefathers in the misty ages of the past, and that we are rejoicing in company with all of the inhabitants of the northern hemisphere.

NEXT MONTH

Drs. Anton W. and Paul A. Oelgoetz, of Columbus, Ohio, will present their thesis as to the relationship between allergy and pancreatic enzymes in the blood, with reports of cases treated on this basis.

Dr. G. Wilse Robinson, Jr., M.D., of Kansas City, Mo., will begin a two-part article discussing, in detail, the present status of shock treatment in mental disorders.

The articles scheduled for this issue, but unavoidably omitted, will appear.

COMING SOON

"Traumatic Kidney Lesions," by D. W. Shumaker, B.Sc., M.D., F.A.C.S., Dover, Ohio.

"Gonad Extracts in Cancer (A Preliminary Report)," by William H. Lewis, M.D., Rome, Ga.

EVOLUTION

*From the primordial slime to almost-man,
Ten billion years God worked the plastic clay;
And, in a thousand more millenia, wrought
The Thinker—he who rules the world today.*

G. B. L.

★ Leading Articles ★

Death and "Appendicitis"

By

G. F. GRANT BATCHELOR, F.R.C.S., London, Eng.
Surgeon, West London Hospital, etc.

THE medical profession of today stands in serious danger of being charged with criminal negligence, and at the head of the charge sheet will be the word, "appendicitis." Those stricken down by this disease are usually in the prime of life, and it is well known that people do not die from the operation for removal of the appendix, any more than they die from traveling in railway carriages, yet, judging from British mortality statistics, if the corpses of those who die each year from "appendicitis" in the United States of America were laid side by side they would form an unbroken line of more than five miles in extent. There can be only one reason for such a tragic state of affairs. Our general standard of pathology, diagnosis, and treatment is fundamentally wrong. The disease which we designate "appendicitis" is, primarily, not an inflammation at all.

Pathology and Etiology

On investigation, the problem narrows itself down to finding an explanation for the frequency, as compared with the rest of the alimentary tube, with which the appendix is the site of an inflammation which so often ends in gangrene and perforation, when it is remembered that the structure of the appendix differs in no material respect from that of the intestine.

For years the bacteriologist and pathologist have labored zealously to explain the phenomenon on the grounds of a primary infective inflammation. But after every avenue of infection (mucosal, peritoneal, and blood stream) had been explored again and again, no adequate explanation was forthcoming. Much valuable work, however, has been performed in this field, with which are particularly associated the names of Aschoff, Kretz, Rosenow, and Craig.

Of the four remaining possibilities, three—congenital, traumatic, and new growth—can be instantly dismissed as untenable. The study of the fourth possibility, that the initiating factor is a mechanical one, recalls to mind the frequently exhibited and well understood relationship between stagnation, infection, and defective blood supply.

In any hollow viscus, stagnation of its contents, in the presence of pathogenic bacteria, means infective inflammation and, if defective blood supply is super-added, gangrene and perforation follow. On examining the evidence, operative, clinical, and experimental, no room is left for doubt that, in this simple chain of events, lies the explanation of the disease which hitherto has been called "appendicitis." In other words, the factor which determines the onset of infective inflammation in the appendix is obstruction of its lumen, and that which deter-

mines gangrene and perforation is strangulation of its blood supply.

I have never seen an appendix, no matter in what state of inflammation, which did not reveal obstruction. Gross pathologic change is confined to that portion lying distal to the site of obstruction and, in the presence of perforation, complete occlusion is a *sine qua non*.

To reveal the obstruction, the appendix must be examined *in situ*, often by palpation alone, because mobilization must, of necessity, entail relief of the obstructing factor by division of adhesions or dislodgment of an impacted fecalith. And herein lies the probable explanation of the long delay in determining the primary importance of obstruction. It is natural that the surgeon, intent on delivering the organ, should turn his mind only to the pathologic condition when the appendix is exhibited in the wound.

Mechanism of Obstruction

The appendix is obstructed in two main ways: First by kinking, and second by impaction of a fecalith.

Assumption of the upright position by man, in the course of evolution, has deprived the cecum of the full support of the anterior abdominal wall and rendered it susceptible to the downward pull of gravity, as is illustrated by the fact that the appendix originally opened into the apex of the cecum. This effect of gravity is increased by the constipation, and lack of muscle tone and exercise associated with civilized life, and leads to appendicular obstruction as follows:

1.—As the wall of the cecum stretches, under the influence of distension and the pull of gravity, the base of the appendix will be dragged downwards, and if the distal part is fixed by congenital bands or adhesions (as it frequently is), then kinking and obstruction will be produced. (See Fig. 1).

2.—As in (1), but instead of the distal part of the appendix being fixed by adhesions, the anatomic arrangements may be such that the proximal branches of the appendicular vessels are put on the stretch, and kinking is produced at their site of junction with the appendix. To this form of obstruction is added vascular occlusion, and the rapid onset of gangrene is reflected in the acuteness of the clinical picture. (See Fig. 2).

The manner in which fecaliths cause obstruction calls for special observation and is best illustrated by the study of gallstone impaction in the small intestine. The gallstone impacted in the ileum and causing complete obstruction is remarkable for the smallness of its size, as compared with the lumen of the intestine, which is capable (by dis-

tension) of accommodating and passing along a very much larger object. Obstruction is produced by a local spasm of the intestinal wall which grasps the stone in a firm, unyielding grip, and it would appear that the spasm is excited by the smooth, oval shape of the stone itself. Be that as it may, there is no doubt about the completeness of the ensuing occlusion, which has a much higher mor-

poured the products of inflammation and secretion, with the result that tension rises and the blood vessels in the appendicular wall are progressively and rapidly occluded. This is frequently demonstrated at operation and is seen in its most extreme form when the exposed appendix is on the verge of perforation. (See Fig. 3).

Clinical Evidence of Obstruction

The symptoms of "appendicitis" are obstructive. Nausea and vomiting are features seen only in disease of hollow viscera (except gastritis), when a severe disturbance of the nervous system is mechanically produced by obstruction and strangulation, or by injury. By way of contrast, vomiting is not a symptom of enteritis and colitis, *per se*.

Fulminating cases of "appendicitis" are not ushered in by high temperature or a rigor. Moreover, the average time required for an appendix to become gangrenous and perforate is around twenty-four hours, and until that occurs the mean temperature is around 98.7° F. In disease of hollow viscera such an association of temperature and pathologic change is never seen in infective inflammation of primary origin, but only when inflammation is secondary to obstruction and strang-

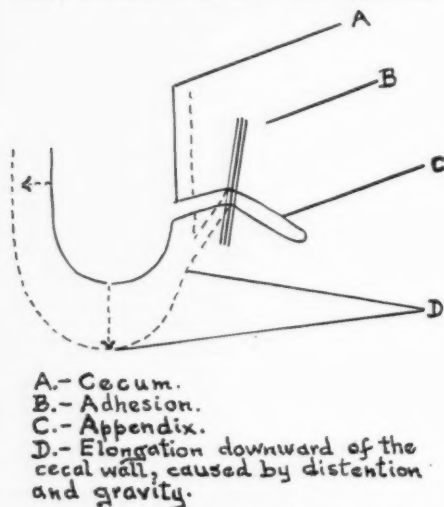


Fig. 1.

tal rate than any other form of intestinal obstruction.

The appendix closely resembles the ileum in histologic structure, and the physical characteristics of the impacted gallstone are reflected in the smooth, oval shape of the appendicular fecalith. In view of this explanation, it will be readily appreciated why the relationship between fecalith and obstruction was never discovered by the pathologist. Some light is also thrown on Aschoff's contention that, when fecaliths are present in "appendicitis," inflammation occurs, not around, but *distal* to them.

In addition to these two main causes, the design of the appendix readily lends itself to obstruction. The lumen is long, irregular, and narrow, and the abundant lymphoid tissue of the submucous coat swells easily. Moreover, the longitudinal muscle bands of the cecum are continued directly on to the appendix, and any irregular muscle contractions, tonic or colonic, set up by cecal distension, will be passed on to the longitudinal musculature of the appendix, asymmetrical contraction of which will produce kinking.

Appendicular Strangulation

Strangulation of the blood supply of the appendix differs from the hernial variety in that the occluding pressure arises in the lumen of the viscus and is dependent on obstruction. In hernia, the neck of the sac, pressing on the intestine from without, accounts for both intestinal obstruction and vascular occlusion.

When the appendix is obstructed, a closed space is formed between the point of obstruction and the blind end. Gas forms in this space and into it are

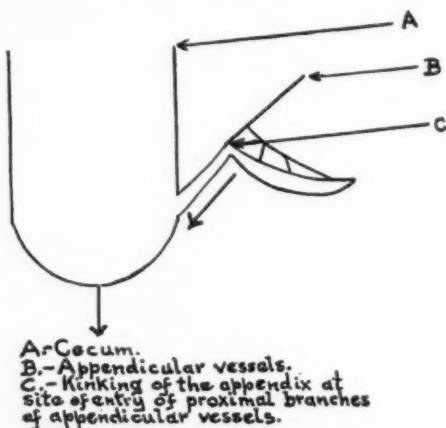


Fig. 2.

ulation, which prevent the passage of toxins from the diseased area into the circulation.

The constipation of "appendicitis" is in marked contrast to the looseness of the bowels which characterises primary enteritis and colitis. In the latter conditions, moreover, purgatives often have a beneficial effect, whilst the dire result of purgation is a by-word alike in "appendicitis" and intestinal obstruction.

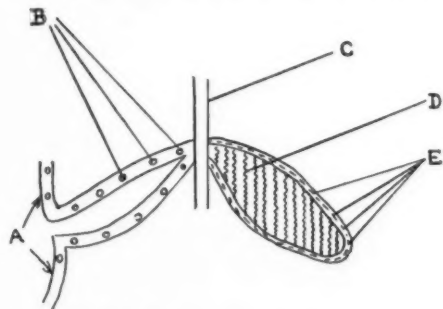
When an ulcer of the stomach or duodenum perforates, or the colon is pierced by a foreign body, severe symptoms immediately ensue. On the contrary, when perforation of the appendix occurs the symptomatic relief which follows is sometimes so marked that many writers have referred to it as the "period of delusion." This can be explained only by the sudden relief of tension located either in an inflammatory focus of the appendicular wall or in the lumen of the appendix distal to a point of complete obstruction. If the former, there is no

logical reason why rupture should take place so consistently into the peritoneal cavity and not into the appendicular lumen.

Experimental Evidence of Obstruction

The late Sir David Wilkie performed the following experiment on a dog's intestine:

A loop of ileum was divided at each end and



A.—Cecal wall.
B.—Unoccluded blood vessels in wall of appendix proximal to site of obstruction.
C.—Adhesion, kinking the appendix and producing obstruction.
D.—Gas and inflammatory products under tension.
E.—Flattened and occluded blood vessels in wall of appendix.

Fig. 3.

the ends of the loop closed. Continuity of the intestine was then re-established by end-to-end anastomosis. If the contents of the closed loop were derived from a protein diet, gangrene, perforation, and death followed in twenty-four hours. When the contents were of carbohydrate origin, after several days distension with pus occurred and an empyema was formed. But, if the isolated loop was empty, it slowly filled with mucus, forming a mucocele.

The great significance of this experiment will be readily appreciated. Simply and solely by obstruction and strangulation of a loop of ileum, all the terminal pathologic conditions seen in "acute appendicitis" were accurately reproduced. An interesting light was also thrown on the statistical fact that the incidence of "acute appendicitis" is high and the type severe among those on a high protein diet, but the reverse where the diet is mainly carbohydrate.

Aschoff's contention that the bacterial flora of the appendix is the same in health and disease points to obstruction and inflammation as being the factors underlying the rise of bacterial virulence in "appendicitis."

There is only one disease process underlying all cases of "appendicitis," and the so-called different types (fibrous, gangrenous, ulcerative, phlegmonous, catarrhal, etc.), each so misleadingly described with a separate clinical picture by the older pathologists, are now known to be only stages in the same cycle. The pathologic progression varies in speed, but is exhibited characteristically in short attacks as compared with longer periods of intermission, each attack leaving the appendix more disorganized and nearer the culminating catastrophe of complete obstruction, with its sequelae of gangrene and perforation. Rarely the pathologic pro-

cess will run from start to finish in one attack, and then the disease may well be described as fulminating.

Clinical Features

The clinical features, closely subservient to the underlying pathologic changes, are readily divisible into three stages: First, the stage of obstruction; second, that of infective inflammation and localized peritonitis; and third, the stage of perforation and extensive peritonitis.

In the first stage the sole pathologic lesion is obstruction of the appendicular lumen. There is, of course, no rise of temperature, and the symptoms are limited to varying degrees of pain and vomiting. The former is localized solely around the umbilicus, as the appendix is a mid-line organ, developmentally belongs to the tenth embryonic dorsal segment, and is innervated by the visceral system. Vomiting may be sharp enough to call for a differential diagnosis from gastro-enteritis and obstruction of the small intestine; or less severe, and so conflict with the nausea and retching of gallbladder disease; while in the mildest cases the "healthy" appetite and "hunger" pain of "gastric hurry" closely resembles the duodenal type of dyspepsia. The "belly ache" and vomiting of the very common ailment, gastro-enteritis, is frequently hard to distinguish from appendicular obstruction, but elicitation of the dietary indiscretion, diarrhea, and sub-umbilical colic of the former can save the latter from the lethal effects of the castor oil bottle. In appendicular colic, also, pressure over the appendix will aggravate the periumbilical pain.

The first stage merges into the second as acute infective inflammation supersedes obstruction and spreads to the surrounding peritoneum. But this characteristic peritonitis is localized and largely non-infective, as the appendix is not yet perforated. The average duration of this stage is twenty-four hours and although, towards the end of it, gangrene is present, it is to be particularly noted that a rise of temperature is not a feature. The mean is around 98.7° F., and the maximum 99.4° F. Pain shifts from the umbilicus to the site where the appendix is lying, and the same area is tender on palpation. *Rebound tenderness* is an infallible sign of the presence of this limited peritonitis, provided that it is elicited entirely objectively. The abdomen is gently indented with the palpating fingers and then more suddenly released. If the patient *winces*, then the diagnosis of peritonitis is beyond question.

Perforation of the appendix initiates the third stage and, as has previously been mentioned, the relief of symptoms coincident with the relief of appendicular tension may be so great that the period of relative comfort which ensues has been designated the "period of delusion." But, in an hour or two, the spreading, acute peritonitis makes its presence known. *For the first time in the course of the disease the temperature rises above 100° F.*, pain intensifies and becomes more diffuse, while tenderness and muscular rigidity stretch out over a wide area. Thereafter the disease follows one of two courses: If the patient's immunity is able to limit the spread of infection, localize it, and form an abscess, then recovery ensues; otherwise death, preceded by paralytic ileus and fecal vomiting, puts an end to the patient's suffering.

It is to be noted that the clinical presentation of "appendicitis" just given is the rule, but excep-

tions have always to be borne in mind. Cases in children are nearly always atypical and, in contrast to the feverless first and second stages of the adult patient, a rise of temperature is often seen in children from the first. In some adult cases pain may be referred to the appendicular site from the beginning, vomiting may be absent, or diarrhea may take the place of constipation. Variations are seen particularly when the appendix lies high, behind the caecum, or low, in the pelvis, both being positions in which centripetal impulses are liable to interruption from torsion of the meso-appendix.

Treatment

The treatment of "appendicitis" may be summed up in three words—*operation before perforation*. To attain this perfectly attainable ideal, the medical practitioner must approach his patient with a mind tuned to detect the symptoms and signs of the appendicular obstruction exhibited in the first stage, or the localized peritonitis which marks the second. He then must immediately arrange for operation unless he can *exclude* a diagnosis of "appendicitis," bearing in mind, first, that, in competent hands, people do not die from the operation of appendectomy and, second, that, although many cases of "appendicitis" never proceed beyond the first or second stage, no one can tell at what period the disease process, once begun, will be arrested. Any attack may be the fatal one and may come on (always unexpectedly) at any time or in any place.

Finally, if the diagnosis of "appendicitis" is not made until the third stage has been reached, *then it must be realized that the time for operative intervention is over*. The dominating condition is no longer appendicular obstruction and inflammation, but *peritonitis* and the treatment of acute infective peritonitis is essentially non-operative. The sole deciding factor between life and death is the value of the patient's immunity, and nothing which the knife can do can aid that immunity, but there is much it can do to destroy it.

Abscess formation is not a complication of the third stage, but an essential step in recovery and an almost absolute indication that the patient will get well, unless misguided surgical intervention turns the scale once more in favor of the invading bacteria. Almost every abscess will resolve spontaneously, with or without rupture into the bowel or vagina, which is the natural route of evacuation, and not through the abdominal wall to the skin. Very rarely an abscess, thoroughly matured, will require incision to relieve tension, because for some days the patient's general condition has been steadily deteriorating or tension in the cavity has produced an excessive degree of intestinal obstruction. But if in any doubt, it is always better to wait than to incise.

I am well aware that there will be many to gainsay the statement that operation has no place in the treatment of the third stage of "appendicitis," but space will not allow of a more detailed description and discussion, which would lead into the vast and interesting field of bacterial immunity.

THE PATHOLOGY AND SYMPTOMS OF APPENDICULAR STRANGULATION.

Pathology	Symptoms
STAGE 1. Obstruction and strangulation.	Umbilical pain. Nausea and vomiting. Duodenal type dyspepsia. Constipation. Normal temperature.
STAGE 2. Acute infective inflammation. Limited peritonitis. Appendix not perforated.	Pain at appendicular site. Tenderness and muscular resistance, limited in area, at appendicular site. Rebound tenderness. Normal or very slight rise of temperature.
STAGE 3. Perforation of appendix. Relief of tension. Extensive peritonitis.	"Period of delusion." Rise of temperature to over 100° F. Extensive area of tenderness and muscular rigidity.
Abscess formation. Diffuse peritonitis.	Recovery. Death.

Conclusions

Thousands upon thousands of able-bodied people have lost their lives, are losing their lives, and will continue to lose their lives because:—

1.—Appendicular obstruction and strangulation have for years been mistaken by the medical profession for appendicitis.

2.—The diagnosis and treatment of a disease, essentially comparable in every way to strangulation of a hernia, have waited upon the establishment of the symptoms and signs of inflammation in general, and a rise of temperature in particular.

3.—The value of the knife as an aid to immunity has been grossly misunderstood, and the victims of infective peritonitis have been submitted to surgical intervention.

Here is a great work to be done, a great wrong to be righted. "Appendicitis," and all that it stands for, must be banished forever.

77, Harley Street, W.I.

THINGS THAT MAKE LIFE WORTH WHILE

It is noteworthy that the things that give us strength are likewise those that make life worth while—the understanding of man and nature; the love of one's neighbor, with the acceptance of responsibility for his welfare; the spirit of keen competition; the finding of a goal worthy of our best efforts. . . . In these difficult times we need to cultivate that veracity of thought which springs alone from the search for truth. . . . In learning to solve our problems by disinterested judgment, based upon adequate information, we find new hope for man's future.—PROF. ARTHUR H. COMPTON, in *Think*, Nov., 1939.

Peptone Broth in Peritonitis

(A Report on 106 Perforated Appendix Cases)

By

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THE mortality from acute appendicitis has risen in recent years, while that in other branches of surgery has been lowered.

This is a brief report on 106 consecutive, unselected cases of perforated or ruptured appendix, with all grades of peritonitis, including the walled-off abscess and the acute spreading varieties. The causative organisms were not studied, but complete clinical records were kept, including follow-up information.

These 106 cases were collected by us over the past five and one-half years, and resulted in a mortality of six (5.66 percent). Five of these were in the first half of the series. There was no death in the last 46 cases. We believe the mortality should have been less, because at least two of the patients had not the after-care which we had wished. One of these was 84 years old and the other was 76; both were very poor surgical risks, otherwise than from an appendiceal general peritonitis of 24 and 72 hours duration, respectively.

We operated upon all cases of appendicitis as soon as we were satisfied with the diagnosis, regardless of the length of the illness, because we feel that the sooner we remove the appendix and put in drainage, the better chance the patient has for recovery; and also because we have no way of determining when a case of ruptured appendix will form a localized abscess or develop a general, spreading peritonitis.

We try to make as thorough an examination as possible of the heart and kidneys, a blood-cell count, and everything pertaining to the general condition of the patient, before operating. We do not give any preliminary enema. We give morphine and atropine one hour before operation. We have used ether anesthesia on nearly all patients.

At operation we operate as rapidly as possible, using the right rectus incision most of the time. We remove all the pus possible with a suction tube before removing the appendix. We drain all cases with a soft but non-collapsible drainage tube. We inject into the peritoneal cavity, with an ordinary Asepto syringe, from 50 to 100 cc. of peptone broth, in all cases, at the time of operation. Every day we inject 100 cc. of broth through the drainage tube, and loosen and cut off about an inch of the tube. We give enough morphine, for from 24 to 72 hours, to keep the patient quiet and comfortable, and enough dextrose solution, intravenously, to keep up the liquids. The full right-lateral position is maintained during this period, to provide drainage. We give water by mouth, usually within 24 or 48 hours, and gradually increase the liquid diet. We usually remove the drainage tube by the fifth or sixth day. About the fifth day a small enema is given and soft diet allowed.

Convalescence was, as a rule, uneventful and uncomplicated. The temperature and pulse were normal in four or five days. In some cases a subsequent rise was due to wound infection. It has been our experience that the peritoneal cavity would

clear up, but we would get some infection of the wound, which we attribute to trauma.

The peptone broth used in these cases is made as follows:

Put 8 grams of Difco nutrient broth, dehydrated*, and 8.5 grams of sodium chloride (to make the solution isotonic) in 1000 cc. of water; heat to dissolve the solids and put in bottles; sterilize for 15 minutes at 20 pounds pressure; incubate to test for sterility. The pH is about 6.7, and we do not adjust it, for use in the abdomen, as we do not want a broth in which microorganisms will grow. If the broth is to be used for cultures, adjust it to a pH of 7.0 or 7.2, with 1/10 normal (N/10) sodium hydroxide solution.

Results

Sixty-eight (68) of the patients were out of the hospital within two weeks and another 20 within three weeks. There was one case of postoperative obstruction, with recovery; no case of postoperative abdominal phlebitis or secondary abscess, except a local collection of pus, in 2 cases, under the incision, where the drainage tube had been removed a little too soon; and no case of incisional hernia or of late adhesions. There were 2 cases of postoperative pneumonia where, however, influenza was present at the time of operation. Autopsies, obtained in 2 cases, showed the peritoneum remarkably clear, but septic pneumonia was present. Nine (9) patients, besides the 84-year-old one who died, were more than 57 years of age. We feel that the cause of death, in all cases, was principally blood-stream infection.

We offer this report, not as a final achievement, but as an indication of what can be done by simple measures with very limited facilities, using a substance which we have proved generally useful in all types of infection everywhere in the body. We have also used peptone broth as a prophylactic against infection, and believe it has great merit as a preventive of adhesions. It has a definite hemostatic effect and also marked analgesic properties. We have used it with great benefit, intraperitoneally, in many cases where no infection was present.

What peptone broth does, locally and generally, we do not yet know. The most probable explanation would seem to be that it causes the formation of bacteriophage. It probably stimulates the local and general body defense mechanism, and may produce the well known foreign protein reaction.

We believe any surgeon can obtain results comparable to those here reported, and if the method becomes generally used, it should markedly lower the mortality from acute appendicitis, where the infection has progressed beyond the appendix, and those are the cases where the greatest mortality occurs.

The following is a history of an average case, as represented in this series:

*Material obtained from Difco Labs., Detroit, Mich.

Case Report

A white boy, aged 12 years, with a history of abdominal pain and vomiting of more than 36 hours duration, showed tenderness and rigidity over the whole right abdomen, worse in the right lower quadrant. His temperature was 101° F.; pulse, 104; respirations, 24; and the leukocyte count, 22,000. A diagnosis of ruptured appendix was made, and the operation was performed through a right rectus incision.

The appendix was found lateral to the cecum, with free pus and extensive peritonitis. The appendix was one centimeter in diameter, distended, and gangrenous, with several perforations discharging pus, and there were several fecaliths.

The appendix was removed by tying off at the base, and suction was used throughout the opera-

tion, to remove the pus. One hundred (100) cc. of peptone broth was placed in the peritoneal cavity before closing, and a drainage tube inserted to the site of the appendix.

Postoperatively, the temperature, in 24 hours, was 103° F. and the pulse 128. By the fifth day the temperature was normal and the pulse was 80. He vomited once during the night after operation, and was given intravenous infusions of 5-percent dextrose-saline solution (1000 cc.) twice daily for 48 hours. Morphine, $\frac{1}{4}$ grain (8 mg.) was given every three or four hours during this time, and the drainage tube was removed on the sixth day, when drainage had almost ceased. Each day the drainage tube was washed out with broth. The patient was dismissed from hospital on the fourteenth day, with the wound healed.

Sclerotherapy

By

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THE revived art of treatment by injection of sclerosing solutions is growing in usefulness and acceptance. The vastness of the modern field, together with the need for special training, lends this therapy the dignity of a new specialty, which may be called "sclerotherapy."

A complete discussion of sclerosing procedures cannot be given in this outline, but the more important applications will be mentioned under the following headings:

- 1.—*Venous Enlargements*
 - A. Varicose veins
 - B. Varicocele
 - C. Hemorrhoids
 - D. Venous angiomas
- 2.—*Arterial Disorders*
 - A. Aneurysm of the aorta
 - B. Angioma
- 3.—*Cystic Enlargements*
 - A. Hydrocele
 - B. Spermatocoele
 - C. Bursitis
 - D. Ganglion
 - E. Pilonidal cyst
- 4.—*Hernias*
 - A. In adults
 - B. In infancy
 - C. In leg muscles
- 5.—*Growthes*
 - A. Warts
 - B. Papillomas
- 6.—*Miscellaneous*
 - A. Rectal fissure
 - B. Fistula in ano
 - C. Cervical fistula
 - D. Goiter
 - E. Prostatic hypertrophy
 - F. Enlarged turbinates
 - G. Hypermobile joints
 - H. Carious dentine (in dentistry)

Venous and Arterial Enlargements Varicose Veins

The rationale of sclerosive therapy for varicose veins depends upon the irritative action of injected chemicals on the venous endothelium. Histologic work¹ has demonstrated intimal destruction, followed by a special type of thrombosis and fibrosis.

An altered pathologic and clinical picture is present in cases of varicose veins and their complications. This is due to the stagnant or reverse venous flow which is present.²

Phlebitis, in an active or latent form, is a frequent concomitant of varicose veins and is responsible for most of the complications. Its presence is best determined by the reaction following an initial injection.³ The reaction in a normal case occurs within three days and consists of a tender thrombus, which remains localized and gradually subsides. The phlebitic response develops in from seven to ten days, is of a migrating character, and subsides more slowly. The presence of a phlebitic reaction calls for most careful attention, but does not contraindicate treatment.

Many solutions are used for modern varicose vein therapy. Among the newer additions are Sylnasol, Moru-quin, Koleo-quin, Monolate, Potassium oleate, and Soricin. Sodium morrhuate is still in use, despite occasional reactions. The older solutions that are still in vogue include quinine and urethane; dextrose and sodium chloride; invert sugar; and 30-percent sodium chloride. Sodium salicylate and bichloride of mercury have been discarded, the former because of its cramping reaction and the latter on account of its toxicity.

I believe that all cases of varicose veins should be thus treated unless there are definite contraindications.⁴ Early treatment is necessary, because complications, including the clinical syndrome of lymphedema, may arise at any time. This syn-

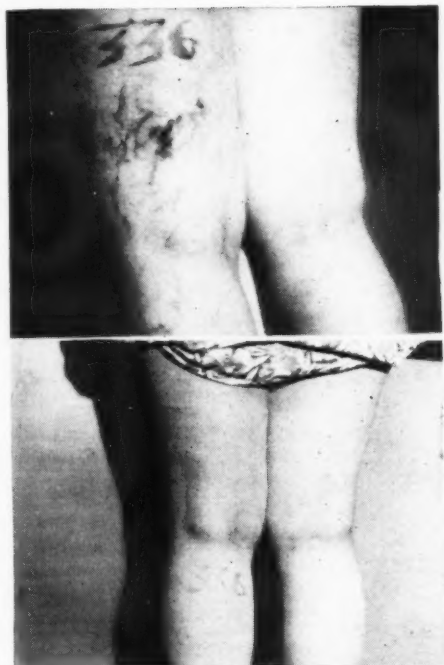


Fig. 1.—Telangiectasia of thigh: Above, before micro-injection; Below, after injection.

drome is not described in the literature and a brief resume will be given.

Almost half of all cases of varicose veins are infected,⁵ and the other half may become infected later. This infection travels into the lymphatic system, slowly but progressively. After a period of time, varying from months to many years, the condition of lymphedema sets in. This is really a chronic lymphangitis, terminating in fibrosis, and is responsible for the discoloration, swelling, and sometimes intractable ulceration that so frequently complicate varicose veins. Febrile relapses and remissions are characteristic, pointing to the bacterial origin of this infection. The whole picture of varicose veins becoming phlebitic and then lymphangitic is a related and continuous one. It is for this reason that I advise the interruption of the cycle by the treatment of varicose veins in the earliest possible stage.

A combination of ligation plus injection is in vogue at the present time, but it should not be used in all cases. It will probably not discourage collateral new growths, but it will prevent recanalization of the great saphenous vein. In many cases, careful obliterative therapy will secure the same result without the hazard of additional surgery. I reserve its use for those cases which show recanalization after apparently complete sclerosis. It is also useful when time-saving is essential, because the number of injections is thereby reduced.

The location of injections is important. The general rule is to work from above downward. Initial injections should be given in the leg and con-

tinued in that region until a reaction occurs. Starting a case by treatment of the great saphenous vein is dangerous, because a latent phlebitis may become activated.

Idiosyncrasies and allergies must be watched for. Full-strength injections of any reagent are never employed at the outset. In cases where a long interruption occurs between treatments, care must be taken not to resume with the same solution, because sensitization may have taken place. In the presence of varico-phlebitis, mild irritants are used at the outset, and their potency gradually increased until migrating reactions are no longer obtained. Then it is safe to use the usual reagents for completing the case.

Treatment of small venules and capillary dilations requires a special armamentarium and cannot be elaborated upon at this time. Any skin vessel that is visible (see Fig. 1) can be injected, with the aid of special, small-gauge needles, under magnification by a binocular loupe⁶ (author's method).

Varicocele

The treatment of varicocele differs only slightly from that of varicose veins on the extremities, except that the venous enlargement is surrounded by loose tissue and is difficult to fix. The patient is prepared by raising a wheal in the skin of the scrotum with procaine solution; then from 2 to 3 cc. of quinine and urethane solution are injected through a 1½-inch, 21-gauge needle. While the varices are steadied with one hand, the other guides the needle into place. Following the injection, a collodion seal is placed over the skin puncture and a suspensory is worn for a few weeks, until the swelling subsides. Often one treatment will control the entire varicocele.

Hemorrhoids

Only internal hemorrhoids are amenable to injection treatment. External piles require surgical treatment when they are thrombosed, and often heal spontaneously. Internal hemorrhoids are vascular tumors of varying degrees of enlargement and, in the terminal stage, chronic protrusion is present. The symptoms are well known, but before beginning the treatment of each case, the patient should be examined with a sigmoidoscope.

The solutions used include phenolglycerin*; 5-percent phenol in oil of sweet almond or cottonseed oil; quinine and urea hydrochloride, 5 to 10 percent; and various fatty-acid preparations. These latter include sodium morrhuate, Moru-quin, Monolate, and oleate-quinine. The amount used depends upon the type of solution and the case. The average amount is from 1 to 2 cc., but the weaker phenol solutions may be used in larger quantities. All solutions should be injected until visible distension is noted. Following an injection, a suppository may be inserted into the rectum. Constipation should be corrected throughout the treatment. One or two quadrants may be injected at each sitting, and treatments may be given once or twice weekly.

Injections are given submucosally and perivascularly. Another method is to place the solution above the hemorrhoidal mass. With prolapsing tumors, it is advisable to inject large quantities of 5-percent phenol in oil above the mass. For shrinkage,

*Phenol (95%) 1 Dram (4 cc.)
Glycerin 4 Drams (16 cc.)
Aqua Distillata 5 Drams (20 cc.)



Fig. 2:—Venous angioma of thigh of an infant: Note the effect of one treatment.

where injection is made directly into the growth, the quinine preparation is more suitable.

The equipment for this treatment includes an anoscope of the Brinkerhoff or Ives type; a headlight; and a 3-cc. syringe with a 3-inch, 21-gage needle.

This treatment should not be given in the presence of proctitis, ulcer, colitis, stricture, or irreducible prolapsed hemorrhoids. Care should be taken not to puncture the rectovaginal septum.

Venous Angiomas

Angiomas may be venous, arterial, or capillary. Their treatment is similar except in the diffuse capillary types, familiarly known as port-wine stains.

Cavernous angiomas, most commonly seen in infancy (see Fig. 2) respond to proper sclerotherapy.⁷ Treatment is ordinarily subcutaneous, and not intravenous. The solution of choice is quinine and urethane, diluted with 2-percent procaine solution in the proportions of 2 to 1; 1 to 1; or 1 to 2. The 1 to 1 (50 percent) solution is most commonly used.

From 1 to 5 minims are injected, subcutaneously, into the tumor mass until visible blanching occurs. A good method is to select a point outside the lesion and, with this as a center, radiating injections may be made into the entire area. Necrosis should be avoided, although it is not always objectionable. Any slight scarring that remains, in infants, should gradually become less noticeable with time.

Aneurysm of the Aorta

Treatment of aortic aneurysm was first attempted in 1864. Modifications followed until 1938, when Blakemore and King described the latest technic of wiring aneurysms to cause mass clotting.⁸ While this sclerosing treatment is not performed chemically, and can be attempted only after very special training, it is included in this discussion to illustrate a different type of sclerotherapy.

In its latest form, the treatment consists of passing an autoclaved wire through a special needle, which is inserted into the aneurysm after preliminary anesthetization. A current of from 50 to 100 milliamperes is applied to the coils of wire.

The wire becomes heated above the coagulation point of the blood proteins and complete mass clotting takes place. The authors present cases which were cured, thus justifying this heroic treatment.

Arterial angiomas, when present in the skin, are often mixed types containing veins, and are treated similarly to venous angiomas, as previously described.

Cystic Enlargements Hydrocele

The injection treatment of hydrocele is also an ancient therapy that has been modernized. After confirming the diagnosis by transillumination and preliminary tapping, the fluid should be studied, to rule out infections and new growths. The treatment consists of draining off the fluid through a 19- or 21-gage needle and, with the needle in place, the injection is performed with a suitable sclerosing agent, after which a drop of collodion is used to seal the needle puncture. Sylnasol is an efficient sclerosing agent in this work, but should be preceded by a preliminary injection of an equal amount of 2-percent procaine solution. The amount of Sylnasol injected varies from 1 to 5 cc., depending upon the size of the sac. Moru-quin, in from 1 to 3 cc. quantities, also works nicely. A good preparation, which needs no anesthetic, is Rider's mixture: Diothane, 0.75 percent; quinine hydrochloride, 5.5 percent; urethane, 3 percent.

Following proper treatment, the hydrocele will swell to the original or even a larger size. Brawny induration with thickening of the wall follows, so that fluctuation is no longer obtained. A suspensory should be worn until the mass subsides, in from 2 to 3 months. A fibrous stump may remain after shrinking is complete.

Spermatocele

Spermatoceles contain a fluid with actively motile spermatozoa. Diagnostic aspiration is important and one should be on the lookout for lobulated sacs. Proper injection treatment is often superior to surgical excision in this disorder, because of the frequent recurrences following operation.

Generally an injection of quinine and urethane solution, either of the ordinary type or the diothane mixture previously mentioned, may be used. Following treatment, a small lump may remain, which will subsequently shrink. Usually one injection is sufficient.

Bursitis and Ganglion

Various types of bursitis may be treated with sclerosing injections. As an example, the treatment of pre-patellar bursitis will be described.

In the absence of infection, aspiration is performed with a large-bore needle. Injection of the sclerosing agent follows immediately. Solutions used are Sylnasol, Moru-quin, or quinine and urethane, from 1 to 3 cc. being injected, depending upon the size of the bursa. It is advisable to lean toward undertreatment and, if necessary, to repeat the injection. Overtreatment may cause suppuration.

Following injection, the tumor swells, and then gradually disappears.

Ganglion has been treated successfully by sclerosing injections. This condition is commonly met with on the dorsum of the hand or wrist. The contents, being of a jelly-like nature, are aspirated with difficulty, and a cannula needle must be used. Following this, from 2 to 5 cc. of Sylnasol or

Moru-quin are injected. The resulting swelling subsides gradually.

Pilonidal Cyst

The treatment of pilonidal cyst was revived, in 1935, by Cutler and Zollinger,⁹ and subsequently improved by me,¹⁰ by eliminating surgical incision, making it completely an injection procedure. Multiple sinuses are usually present, which may connect with a common cystic dilatation. These sinuses must first be probed and dilated until a common meeting point is demonstrated. Any infection that is present must be dealt with before sclerosive therapy is begun. Often mild infections can be cleaned out by inserting fine drains into the dilated sinuses. With frank abscess formation, incision must be performed first. After demonstration and dilation of the sinuses, curettage is begun, using fine instruments. I prefer a small dental burr for the smaller channels. After curettage, modified Carnoy's solution* is employed, either on cotton-tipped probes or by actual injection. It is advisable to inject procaine solution into the sinus tracts before commencing each treatment.

Some of the tracts will close firmly with this procedure, but in many cases it will be found necessary to employ fuming nitric acid as the sclerosing agent. A fine metal applicator is dipped into the acid and the excess shaken off, leaving a thin film of acid on the metal tip. This is inserted into the bottom of the sinus and the instrument rotated, bringing the solution in contact with the lining of the cavity. This is not especially painful.

Treatments are given every week or two until complete obliteration occurs and firm scar tissue develops in the tracts.

Hernias

In Adults

Injection treatment of hernia is a revival of an old treatment which was started 100 years ago.¹¹ New solutions and technics have now placed it upon a more favorable basis.

The rationale of the treatment lies in the fact that adhesions are formed between fascial planes, by the growth of scar tissue produced as a result of chemical irritation. Histologically, the production of scar tissue has been demonstrated as a result of these injections.¹² I have described new solutions¹³ and a new technic,¹⁴ in order to standardize the treatment.

The needles used are 20-gauge and 3 or 4 inches in length. Preferred solutions for general use are Monolate or Neogaltanol. The patient is prepared by having him void, and the actual injection is performed with him lying down on a flat table.

The truss is every bit as important as the injection treatment itself. It should be waterproof, because it is not to be removed until the treatment is completed. A semi-rigid frame truss, constructed on waterproof principles, is the best for daytime wear. If the patient can afford it, he may change to an elastic truss at night. Pads should be oval in shape and the truss so fitted that the pad presses on the entire length of the inguinal canal, including the internal ring. Except in difficult, direct hernias, the lowest point of the pad should be above the pubic spine.

In indirect hernia, the injections are concentrated on the internal ring and the needle point carried through the aponeurosis of the external oblique and the muscle beneath it, until it reaches the plane of the transversalis fascia. From 1 to 3 cc. of solution is deposited with each injection. Successive injections are placed along the entire course of the inguinal canal, and finally both crura of the external ring are treated.

In direct hernia, injections are focussed around the region of the conjoined tendon. The needle must be carried below the spermatic cord down to the ramus of the pubis. After contact with the bone has been made, the needle is slightly withdrawn and the injection performed. After this region and the external ring have been definitely sclerosed, the rest of the canal is also injected. Full details of the technic should be studied elsewhere.

The average number of injections is fifteen, but treatment should not be stopped until definite scar tissue can be felt with the needle point. The truss is worn from three to six months following treatment. It should first be removed only at night, but gradually is completely discarded.

In Infancy and Childhood

Umbilical as well as inguinal hernias can be treated by sclerotherapy. In this age group there should be few failures, and therefore the injection treatment is generally the treatment of choice. The technic does not vary from that in the adult, except that fewer treatments are required because fibroblastic proliferation is much more easily obtained.

Umbilical hernias that do not respond to ordinary strapping can be readily controlled by the use of hernial sclerosing solutions injected into the margins of the defect. Adhesive strapping or a well-fitting umbilical truss should be used in conjunction with the injection treatment.

Hernias of the Leg Muscles

Hernias of the leg muscles must not be confused with varicose veins, which they resemble. They appear as small pouches on the legs, which do not move with the skin and show no blood on aspiration. These fascial defects can usually be closed by a few injections, around their edges, of from 1 to 3 cc. of Monolate, followed by the application a compression pad. This treatment has never been described before, and is mentioned because of its importance in differential diagnosis.

Warts and Papillomas

Verrucas have been treated by numerous remedies. Injection treatment is especially suitable for the plantar and palmar types.¹⁵ A simple method is to inject a few drops of sodiumiodobismuthite into the base of the wart, which will turn black in twenty-four hours. For painless sclerotherapy a better preparation is the following: Sodium-bismuththioglycollate, 3 grains, and 2-percent Novocain solution, 2 cc. The amount injected is from 2 to 4 cc., into the base of the verruca. I have also employed sodium morrhuate and quinine preparations, with good results.

By injection of the pedicle, the nutrition of a papilloma is cut off and a cure results. From 1 to 3 minims of quinine and urethane solution are injected into the pedicle, until blanching results. Shrivelling of the growth follows rapidly.

*Absolute alcohol 6 cc.
Chloroform 3 cc.
Glacial acetic acid 1 cc.
Ferric chloride 1 Gm.

Miscellaneous

Rectal Fissure

In the absence of internal hemorrhoids, the walls of a rectal fissure are injected with Moru-quin, using from 0.5 to 1 cc. As a preliminary, the area is sterilized with alcohol and anesthetized with procaine solution. Both sides of the fissure are treated, as well as the base. After from one to four weekly treatments, healing usually results.

Fistula in Ano

After establishing drainage, treatment of fistula in ano is begun.¹⁶ The fistulous tract is probed with a cannula needle until the end is felt, at the internal opening, by the index finger of the left hand. The inserted finger covers the internal opening while a hypodermic syringe containing from 3 to 5 cc. of Moru-quin is attached to the cannula and the canal ballooned by the injection. Treatments are given each week, and often, after from three to five treatments, closure may be expected. Occasionally it may be necessary to make x-ray studies of the tract, after contrast injections, to study the presence of tributary branches. All branches should be treated.

Cervical Fistula

Modified Carnoy's solution, which has been described previously, is injected into the sinus cavity of a cervical fistula, after suitable preparation.⁹ This consists of cleansing the cavity and, in the case of infection, incising and draining it. A good plan is to inject methylene blue into the sinus opening and look for the appearance of the dye in the mouth near the region of the posterior pillar of the tonsil; also x-ray visualization may be made after the injection of Diodrast. During the treatment, the adjacent skin area is protected with vaseline and pressure is maintained over the pharyngeal opening, simultaneously with the actual injection. Preliminary local anesthesia is advisable, in conjunction with the hypodermic injection of morphine for its general effect. One treatment will often produce a permanent cure.

Goiter

The treatment of goiter with sclerosing solutions is still experimental and not generally recognized. A few investigators¹⁷ have reported good results in exophthalmic goiter, by virtue of the contracting strands of scar tissue following the injection of Sylnasol. The actual injection is made into the body of the gland underneath the muscle, being careful to avoid the blood vessels and the parathyroid glands. This is still a dangerous field and needs more experimentation and time for elaboration.

Prostatic Hypertrophy

The injection treatment of prostatic hypertrophy is also experimental, but pioneers report favorable results in such cases, after sclerosing injections. While theoretically it seems to have some basis, it is not recommended until more investigation has been reported.

Enlarged Turbinates

The solution of choice for injecting enlarged turbinates is quinine lactate, in a saturated solution of about 16 percent concentration.¹⁸ The area is first anesthetized with a cocaine-adrenalin mixture. Following this, 0.25 cc. of quinine lactate solution is injected into each of four points along the inferior turbinate. Intravascular injection should be avoided. The nares are plugged with cotton for

one-half hour. After three weeks, if sufficient shrinkage has not been obtained, the treatment may be repeated.

Hypermobile Joints

The injection of sclerosing solutions in treating hypermobile joints is recent and there is practically no literature upon it. It is employed where excessive mobility causes pain or easy dislocation. Sylnasol is injected into the joint cavity, to promote adhesions in the area of the capsular and articular ligaments. From an orthopedic point of view, joint fixation is an old remedy. The use of sclerotherapy in this condition holds promise for the future.

Carious Dentine

The dental procedure¹⁹ of treating carious dentine by sclerotherapy is included for its interest and for purposes of comparison. The agent used is Tiranal, a sclerosing agent first used in 1931. Its action changes the dentine into a hard substance of a different color. This hardened wall serves as a barrier to protect the underlying pulp and and subsequent cavity preparations. Only otherwise healthy teeth are thus treated. Sensitiveness decreases with the use of this agent, and histologic studies show evidence of penetration. This acts also as a prophylactic in early pit and fissure decay, to prevent further enlargement.

Summary

1.—Sclerotherapy, in twenty-four conditions, has been described.

2.—The aim of sclerotherapy is to replace surgery by relatively safe procedures, which usually permit the patient to be ambulatory.

3.—Sclerotherapy may be regarded as a new specialty, because of its complexity and the special training required for its use.

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510 Madison Avenue.

Nonoperative Orthopedic Technics *

VII. The Ankle and Foot

By

RUSSELL A. WINTERS, M.D., Chicago, Illinois

NORMALLY the 26 bones in the foot balance the body evenly and give the required leverage to propel it forward. Improper articulation of these bones, due to weakened arches or improper shoes, permits a sagging of the bones which upsets the normal three-point support for evenly carrying the body weight.

Foot conditions cause discomforts that extend to all parts of the body. An unusual articulation of any of these bones results in:

1.—Localized discomfort, hindering the circulation.

2.—Contraction of the toes as a guarding measure, resulting in pain over the instep, edema, or "tired feet."

3.—Protective contraction of the supporting leg muscles and tenseness of the thigh muscles, manifested by pain behind the knees or at the sides of the thighs.

4.—The pelvis, which normally lies on a 30-degree plane to the horizontal, is either tilted anteriorly to a 40- to 45-degree plane, producing kyphosis, or lowers one hip, causing scoliosis.

5.—The hip muscles are interfered with by improper posture, causing local discomfort or low back pain.

6.—The shoulders are rounded unnaturally, causing pains in the upper back.

7.—Shoulder-joint pains are caused by a forward sag of the upper trunk.

8.—The neck may become stiff or sore by protecting the shoulder movements, and headaches may result.

9.—The complete physical disturbance may result in nervousness, an upset mental condition, an upset to the digestive and glandular system, and many other secondary conditions.

10.—Direct pressure on spinal nerves or their accompanying blood vessels, by these protective muscular contractions, may produce organic changes in the structures which they supply.

Patients showing incorrect posture should be studied from a dietary angle; correctable orthopedic faults should be eliminated; elimination should be watched; the feet should have palpable faults corrected; the shoes should be corrected, if necessary; and supports and pads for elevating spe-

cific bones or for compensating for a shorter leg should be utilized.

Improper shoes in the past may produce trouble in the present.

Faulty arches have the bones thrown out of line and are unable to assume the balancing of the body properly. Faulty arches include:

1.—*Rigid flat foot*, wherein the longitudinal arch is flattened enough to produce symptoms, and there is but little extension of the foot while walking.

2.—*Retractable arch*, wherein fatigue is present in the feet and legs from being on the feet. Physical examination reveals a seemingly normal arch, but in checking the standing arch there is a definite sag and the foot extends about the length of one toe phalanx.

3.—*Flexible arch*, wherein the arch is high, but palpation reveals a sensitive tension of the plantar fascia and short flexors of the feet. The standing arch reveals a foot-stretch as long as the distal toe phalanx or more. This type is commonly overlooked, but produces the most discomfort. The shoe fit is almost always wrong, being too short and cramping the toes when standing.

Check the arches by applying chalk, oil, or a grease to the bottoms of the feet, and have the patient stand on a sheet of clean paper to make a record impression.

Improper shoes are usually either:

1.—*Outflare shoes* crowd the big toe, distorting the phalangeal-metatarsal joint; lodge a sesamoid bone between the distal end of the first and second metatarsal bones; force the metatarsal arch downward; cause callouses or corns by distorting the transverse arch; and many times give rise to a hammer toe.

2.—*Inflare shoes* crowd the little toes, especially the fourth and fifth. The instep arch has inadequate support, forcing the metatarsal heads down and resulting in corns and callouses beneath the outer metatarsal joints, weak ankles, tailor's bunions, Morton's toe, and hammer toes. The well-fitting shoe should meet the individual needs of the patient and should have:

1.—*The toe point* just lateral to the inside of the heel, resulting in a straight line corresponding to the inner border of the normal foot.

*This is the seventh of a series of eight articles.

ANATOMY AND COMMON FINDINGS OF ANKLE AND FOOT



2.—A snug fit around the instep, as in grasping it with the hand but not compressing the bones.

3.—Be modeled for the natural lines of the foot, allowing full movement snugly, thus permitting comfort and freedom.

4.—A conservative heel, medium for women and either medium or low for correct body posture, so that the pelvis is not tilted forward and

the body weight is not jammed forward on the toes.

5.—A heel wide enough for a good balance and slightly wedged along the inner side to throw the major weight on the outer side, whose border is stronger and larger. This also induces the foot to toe straight ahead (Indian fashion), which is the correct and natural way to walk.

6.—Room for the toes to function normally,

especially the large toe which propels the body forward when walking.

A properly fitting shoe is not necessarily expensive. Many reputable shoes are sinned against by fitters who are inadequately equipped to meet the individual requirements. Watch the shoe salesman who tries to force sales according to their stock instead of the patient's comfort. It is better to wear old shoes meeting the foot requirements than new shoes that distort the foot.

To check the patient's shoe:

1.—*Have the patient stand on a piece of paper and outline the foot with a pencil. Place the paper beneath the shoe and see if any of the outline is visible. Have the patient carry the outline to the store, to check new shoes. Especially watch the foot-stretch, in length and width.*

2.—*Hold the shoe to the light, so as to look inside. Look for toe marks on the inside, to see how many are being used. Five blotches should be visible; usually there are only three.*

3.—*Wear on the end of the sole indicates either a toe-dragging walk or a pigeon-toed walk.*

4.—*Wear of the outer side of the sole indicates arch trouble or walking with the toes turned out.*

5.—*Wear on the lateral side of the heel indicates incorrect posture or weak ankles.*

Supports should be used only after the major abnormalities are corrected, and may be:

1.—*Arch supports, especially those built into the shoes, aid in cases of weakness.*

2.—*The need for metatarsal supports is determined by covering the sole of the foot with a colored chalk, putting on the shoes, and having the patient walk around the office.*

A.—*Dark chalk spots indicate metatarsal drop and call for mild padding under the foot to hold it up.*

B.—*Clear areas beneath tender areas suggest arch trouble. Apply molding clay to the area and have the patient stand with the shoe on and the clay in place. Build a metatarsal or arch support a shade thicker than the mold.*

3.—*Thin wedges beneath the sole or heel of the shoe at worn areas, to throw the weight into a normal plane and correct the walk.*

4.—*Lengthen a short leg with an inner sole, measuring the difference with the patient on his back, in straightened alignment. Full-body roentgenograms will confirm the efficiency of the corrective pad.*

5 North Wabash Ave.

MORALISTIC MEDDLING

When a man, by luck, inheritance, or otherwise, reaches the top; when he has become rich and successful, one temptation he finds it nearly always impossible to resist is to try to force his credo upon others. Unless he takes a tight hold on his inclinations, or is stricken dumb, he is apt to spend a good deal of his time lecturing everyone who can be cajoled or coerced to listen, concerning what they should do to be like him. And it never seems to occur to him that they should not want to be like him.

Unfortunately, the same thing holds true of nations. When one of them gets to the top of the heap, nothing seems able to restrain it from embarking on a crusade to compel other nations to do as it does and be as it is.

I am betraying no secret when I say that our own U.S.A. is getting into this category. More and more, during the past few years, it has been telling other nations "what to sing," and, in one way or another, threatening them if they fail to obey.—WILLIAM R. CASTLE, in Today's Challenge.

FULLNESS AND SPLENDOR

Life grows too crowded and too showy; crowded, not full, for crowd is from without, fullness from within; showy, not splendid, for show is the veneer of wealth covering a base metal, while splendor is the gleam of the golden thread of stateliness, interwoven with the silken web of noble character.—ANNIE BESANT.

BIRTH CONTROL

Birth control is the chief instrument vouchsafed to civilized men, where-with, from the infinite possibilities of brutal procreation, to carve the great race of the future.—HAVELOCK ELLIS.

SELF-CONFIDENCE

A man may become great if he doesn't believe in a hereafter; he may become great if he doesn't believe in God; but he never can become great if he doesn't believe in himself.—Ancient Wisdom.

Physical and Office Therapy and Radiology



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Ultraviolet Therapy*

THE wave-length of visible light ranges from approximately 770 millimicrons (a millimicron is 1-millionth of a millimeter or 10 Angström units— \AA), at the red edge of the spectrum, to 390 millimicrons at the violet. The ultraviolet or invisible radiations of shorter wave-length than the violet then continue to about 10 millimicrons, where they overlap the roentgen radiations. They are usually divided into three groups: the near ultraviolet, from 365 to 290 millimicrons; the far ultraviolet, from 290 to 180 millimicrons; and the extreme ultraviolet, from 180 millimicrons to the range of the x-ray group.

It is important that we understand the variations in wave-length, because much of the confusion in the literature concerning ultraviolet radiation has been a direct result of lack of definite information about the exact type of radiation used.

The penetration of ultraviolet rays through the tissues varies with the wave-length, although they all are absorbed in the superficial layers. The far ultraviolet rays (180 to 290 millimicrons) penetrate the dermis only, 0.1 to 0.5 mm. (this is really only through the stratum corneum), while the near ultraviolet rays (290 to 365 millimicrons) penetrate 0.5 to 1 mm., according to Coblenz. This is into the stratum mucosum or basal-cell layer of the epidermis.

The action of ultraviolet radiation is photochemical in nature. There is a definite latent period of several hours before the maximum effect is reached. This is followed by a gradual return to normal. The exact nature of the underlying physiologic process is not known, but the physiologic effects may be listed as follows, according to Bachem:

Physiologic Effects of Ultraviolet Rays

Local

- 1.—Erythema (with short latency).
- 2.—Ultraviolet conjunctivitis (snow blindness).

*Minn. Med., June, 1939.

- 3.—Vasodilation.
- 4.—Pigmentation.
- 5.—Blistering (sunburn).
- 6.—Tissue stimulation.
- 7.—Germicidal and cytotoxic effects.
- 8.—Sterol activation.

Systemic

- 1.—Sympathetic nervous system stimulated (or depressed).
- 2.—Assimilation and elimination increased.
- 3.—Internal secretion increased.
- 4.—Calcium and inorganic phosphorus fixed.
- 5.—Gastric secretion increased.
- 6.—Hemoglobin, erythrocytes, and platelets increased.
- 7.—Clotting time shortened.
- 8.—Blood pressure lowered.
- 9.—Resistance against infection mobilized.
- 10.—Toxic effects.

Many, and perhaps all, of these effects vary according to the wave-length. For example, in general the shorter wave-lengths are more bactericidal. Indeed there seem often to be optimum wave-lengths for the destruction of individual types of organisms. The longer wave-lengths are more pigment-forming, and those near to visible light produce the best tan. The erythemogenic effect has one peak at about 250 millimicrons ($2,500 \text{\AA}$) and another at about 300 millimicrons ($3,000 \text{\AA}$). The antirachitic effect also follows a definite wave-length distribution, as shown by Coblenz.

It is probable that many of the other effects will follow definite wave-length curves, also. These may be determined in the future, by spectrographic methods with suitable filters.

Technic

Exact technic is essential to progress in any field, and the field of ultraviolet irradiation is no exception to this rule. One of the most powerful impediments to progress in this field has been the lack of specific technical details when results have been reported.

In specifying a technic, we must first know the spectral composition of the source of radiation used. This varies, of course, with the type of lamp and the filters used. This information can be secured from the Council on Physical Therapy of the American Medical Association, if desired. Second, we must give an accurate dose of radiation. And, third, we must consider the skin susceptibility of the individual patient. In general, brunettes are more resistant to ultraviolet, blonds are more sensitive, and red-heads are the most sensitive.

Coblentz has suggested that the dose should be measured in **Finsen units**. He defines this unit as a "radiant flux of 10 microwatts (100 ergs) per square centimeter per second of homogeneous radiation of the wave-length 2,967 Å."

The most practical unit for the ordinary clinician is the minimal erythema dose. This may be defined as the shortest exposure at a certain distance that will produce a perceptible reddening of the skin which disappears within twenty-four hours. This will vary, of course, with different skin types. However, it is easily determined for any given lamp by exposing small areas on the anterior, surface of the forearm to a series of regularly increased quantities of radiation, and thus determining the one which causes a minimum perceptible erythema. The dose varies according to the duration of exposure, the distance from the patient, and the angle at which the rays strike the part to be treated (the lamp should be as nearly at right angles to the part as possible).

The inverse-square law states that the intensity of radiation from any point source varies inversely as the square of the distance from the source, when the absorption by air is negligible. This means that reducing the distance by one-half provides, not twice, but *four times* the dose, and reducing the distance to one-third does not produce three times the dose, but *nine times* the previous dose.

One must be sure that the rays are not absorbed by ointments, crusts, dressings, etc., that cover the part to be treated. The part should be thoroughly cleansed with soap and water, if ointments have previously been used. The lamp should be kept clean and checked frequently for efficiency.

Indications

Ultraviolet irradiation has been recommended for such a ridiculously large variety of diseases that it is absurd to name them all, or even to imagine that this agent is really of value in them all. However, there are a few diseases where the use of ultraviolet radiation is scientifically correct and a number more where its use is supported by enough clinical evidence to be impressive.

1.—*Rickets, Infantile Tetany or Spasmophilia, and Osteomalacia*: The well-proved ultraviolet effect upon calcium metabolism, by the formation of vitamin D, makes its use rational in these conditions.

2.—*Tuberculosis*: Most authorities agree that ultraviolet radiation is useful as an adjunct to the usual treatment (rest, food, etc.) in *extrapulmo-*

nary tuberculosis. This includes tuberculosis of the bones or joints, of lymph glands, of the peritoneum and intestines, and of the genito-urinary system.

In some selected forms of chronic pulmonary tuberculosis many workers think that ultraviolet therapy is indicated, while others believe that it is contraindicated in all forms of pulmonary tuberculosis.

3.—*Erysipelas*: In my opinion ultraviolet irradiation is the method of choice in the treatment of erysipelas. The mode of action is not yet understood, but the clinical results can no longer be doubted. We have treated more than 500 cases by this method, with very satisfactory results.

However, it is extremely important that *heavy doses* of ultraviolet be given in the treatment of erysipelas, from six to twenty erythema doses being used, according to the type and efficiency of the lamp employed.

4.—*Certain Skin Diseases*: Many dermatologists employ ultraviolet as an aid in the treatment of certain skin affections. Among these may be listed lupus vulgaris, scrofuloderma, pityriasis rosea, psoriasis, acne vulgaris, adenoma sebaceum, erythema induratum, and alopecia areata.

5.—*Indolent Ulcers*: Some well-controlled work has indicated that ultraviolet is of value in the treatment of indolent ulcers and to promote the healing of wounds in general. This includes its use in the treatment of chronic draining sinuses, decubitus ulcers, and other such conditions, when it is possible to reach the affected areas with ultraviolet radiation. It is important to use *small doses*.

6.—*Burns*: Following extensive burns, the healing period may be greatly shortened by the use of ultraviolet radiation, according to Peck.

7.—*Tonic Ultraviolet*: In many chronic diseases, where malnutrition or deprivation of sunlight due to hospitalization is a factor, the use of ultraviolet radiation is indicated for its tonic and psychologic, as well as antianemic, effects. It may also aid in the prevention of bedsores. In this group may be included sufferers from arthritis of any type, paralysis, multiple sclerosis, neurasthenia, hemiplegia, and many other chronic conditions.

Contraindications

The use of ultraviolet radiation is generally agreed to be contraindicated in active and progressive forms of pulmonary tuberculosis, hyperthyroidism, diabetes, highly nervous people, patients with advanced cachexia or inanition, and aged people with acute or chronic nephritis or myocarditis.

It is also contraindicated in certain skin diseases. These include: all forms of generalized dermatitis, lupus erythematosus, herpes simplex, erythema solare perstans, xeroderma pigmentosum, hydroaestivale, freckles, atrophy, keratoses, and prematurely senile skin.

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SCIENCE AND CLARITY

It is not unscientific, as some scientists seem to believe, for even a scientist to make his meaning clear.—ALBERT E. WIGGAM.

★ Notes and Abstracts ★

X-Ray Treatment of Hyperthyroidism

OVERGROWTH of the thyroid gland, or hyperfunction of the normal thyroid gland, can be treated by partial excision or can be controlled by irradiation, which gradually reduces the activity of the cells and causes atrophy of the hypertrophic or hyperplastic tissue. *This reduction takes place even when no enlargement or tumor is present.*

Roentgen rays should not be used (1) if the patient is in crisis; or (2) is suffering from pressure symptoms; or (3) if the goiter is simple or non-toxic. Patients with hyperthyroidism, who are over fifty years old, frequently complain of tachycardia, palpitation, dyspnea, asthenia or fatigability; and a coarse tremor, often associated with hypertension, is found.

If roentgenotherapy is carried out early in the course of the disease, the patient need not stop work. Improvement is noted, following such treatment, within from four to eight weeks. *Small doses* are used, and there is no danger of skin injury.—G. E. PFAHLER, M.D., in *Radiol.*, Jan., 1940.



X-Ray Therapy in Acromegaly

By proper deep x-ray therapy of the pituitary gland, acromegalic patients may have an almost complete return to normal function (relief of headache and visual disturbances; return of normal blood sugar rates and basal metabolism tests; return of menstruation, and even normal pregnancy; cessation of further bony growth). The treatments consist of 20 milliamperes for 15 minutes, through a 0.5 mm. copper and 1 mm. aluminum filter. This was delivered through an 8-centimeter portal, at a distance of 50 cm. The dose delivered was 300 milliamperes minutes, amounting to approximately 800 to 900 roentgens. — A. WEINSTEIN, M.D., in *Ann. Int. Med.*, Oct., 1939.



Look for **THE LEISURE HOUR** among the advertising pages at the back.



X-Ray Treatment of Acute Mastitis

PAIN is promptly relieved, when acute cases of mastitis are treated with the roentgen rays, and the duration of the process is shortened. If treated within the first twenty-four hours, only 3 percent go on to suppuration, as contrasted to the usual 20 percent.—HARRIET C. MCINTOSH, M.D., in *N. Y. S. J. M.*, Jan. 15, 1940.



X-Ray Therapy of Acute Pneumonia

ROENTGEN-RAY therapy of pneumonia often leads to subsidence of fever and toxemia in from 24 to

48 hours. Even the patients who were subjected only to diagnostic x-ray studies showed a lower mortality rate than did those whose chests were not examined radiographically.—W. R. SCOTT, M.D., in *Radiol.*, Sept., 1939.

★ News ★

"Radium Number" of Mississippi Valley Medical Journal

THE March issue of the *Mississippi Valley Medical Journal and Radiologic Review* (Quincy, Ill.), is the thirteenth annual "Radium Number" and contains ten original articles, especially written for this number, by well known radium therapists. Those who are interested in this specialty will do well to procure a copy of this issue, if they are not regular subscribers.

★ Books ★

Sclerosing Therapy Yeomans

SCLEROSING THERAPY. The Injection Treatment of Hernia, Hydrocele, Varicose Veins, and Hemorrhoids. Edited by FRANK C. YEOMANS, M.D., F.A.C.S., M.R.S.M. (London, Hon.), Professor of Proctology and Attending Surgeon, New York Polyclinic Medical School and Hospital; Fellow and Past President, American Proctologic Society; Consulting Surgeon, New York City Cancer Institute; Associate Surgeon, the New York Hospital. 185 Illustrations. Baltimore: The Williams and Wilkins Company. 1939. Price, \$6.00.

THIS volume is made up of four monographs on four different aspects of sclerotherapy. Bratrud discusses the injection treatment of hernia; George Hoch the injection treatment of hydrocele; Harold Shelley the injection treatment of varicose veins; and Yeomans the injection treatment of hemorrhoids.

Here is a very adequate and well illustrated presentation of the various types of hernia and methods of injecting them. Full details are given and illustrated, as to amount of solution, depth and angle of needle introduction, et cetera. Bratrud gives an honest estimate of the approximate number of recurrences and contraindications to the sclerotherapy of hernias.

The injection treatment of hydrocele is clearly and briefly outlined. Apparently, the author still retains the idea that the application of an antiseptic renders the skin free from bacteria. Koch's (Chicago) work has shown that the preoperative use of soap and water is more effective than brief swabbing with an alcoholic germicidal preparation.

Throughout the work is written in a simple, explicit style. It is what many physicians and surgeons have been waiting for.

A Living for the Doctor

The Business of Medicine and the Art of Living



Associate Editor: Ralph L. Gorrell, B.S.M., M.D., D.N.B.

To Make Reading Count

EVERY one of us, when doing any really substantial reading, is constantly encountering clever and penetrating phrases, bits of out-of-the-way information and other matters which make us exclaim, "I mustn't forget that!" But within forty-eight hours the thing is gone, as if we had never seen it.

Here is a plan for putting salt on the tail of these ideas and caging them, so that they can be found when wanted.

Those who mark their books as a regular part of the practice of reading (as all *real* readers do), will need only to equip themselves with a red pencil, in addition to the usual black one. Then, when the memorable passage is encountered, it should be *underlined in red*. A keyword, which will enable the reader to find it in an index, is doubly underlined.

Then turn to the blank fly leaf in the back of the book and enter the keyword, followed by the page on which the passage appears. If the same idea bobs up again on subsequent pages, simply enter the page numbers of the marked passages, following the original word entry.

When the book is finished, sit down with a little stack of thin, tough, four-by-six filing cards and enter the keyword in capitals above the red line, at the left. Below it, place the name of the book, the author, the publisher, and the date (so as to identify the edition), and then copy the marked passage, followed by the number of the page upon which it appears. Go down the list in this way.

If one has a secretary, she can do this work—and will usually be *glad* to do it, assuming that she is as intelligent as most secretaries. If not, a typewriter is best, of course, but, if not available, the entries can be made, in a *legible hand*, with a pen.

In order to make the plan work, one must have a four-by-six file box and a set of index guide cards. The file cards are then placed back of the proper letter, in alphabetic order, and will be *right there* when one is ready to refer to them.

It is astonishing how one begins to notice, in newspapers, magazines, and elsewhere, references to subjects one has indexed. Newspaper paragraphs may be clipped and pasted on the backs of the proper cards. Cross-references are a great help, too.

All kinds of references can go into the same file and, when one wants to prepare a speech or an article, will furnish a rich mine of well-chosen material. Odd minutes devoted to looking through such a file will greatly strengthen one's conversational powers.

This plan is cheap, relatively easy, and pays big returns on the time, money and labor invested in it.

G. B. L.



Physician, Look at Thyself!

THE next time that you attend a medical meeting or get-together, study the dress and actions of your fellows. Fully one-half of the physicians present will be sloppily dressed. Ties, shirts, shoes, and suits clash in conflicting colors or submerge in dull, lackluster grey or blue. Not one man in five will boast of razor-edge trouser pressing or a smart shirt, or of good-grade shoes, well shined.

Once past the age of thirty-five, most doctors evidence a waistline bulge, if not an outline that is only suffered by women for a few months during their reproductive years. Physicians, who preach health, are as careless a group in matters of health as may be found. Few there are who stand erect, who sit upright, who indulge in any type of athletics *for exercise*, who do not overeat. In fact, a good attendance at most medical meetings is assured only by promising a good "feed." How many walk a mile a day? How many get out in the open air for an hour each day?

Quite often, the young practitioner looks at himself in the mirror every morning, to make sure that his tie is neatly tied, that his suit is well pressed and fits as well, that his shirt looks im-

maculate. As he gets along in practice, and his patients come to know him better, imperceptibly he begins to pay less and less attention to his personal neatness. He forgets to scrub his hands before attending each patient and to make sure that his fingernails are clean. He retains the style of dressing of former years, thus planting the impression in his patient's mind that his knowledge is also ancient. The "Hoover" collar derision is evidence of the harm that such a habit may do.

This last remark is not to be construed as a suggestion that a middle-aged or elderly man wear flamboyant clothing. There is a middle choice between standpatness and gaudiness.

The successful physician may be successful despite his lack of attention to his garb, but he would be *more* successful if he did dress neatly. Those of us who have been ashamed to introduce a patient to a learned consultant for this reason (and who have had to talk fast to "sell" a rather unkempt individual to the patient), would be much pleased if every physician who reads this would do this one thing: Right now, without adjusting the knot in your tie or slyly polishing your shoes a little or combing your hair, have a large, clear, candid photograph taken, and then study it carefully and repeatedly.

R. L. G.



The War and You

THE operations should be carried out primarily on those whom it is possible to save. Instead of losing time on hopeless cases, all one's energies should be concentrated on those who have a better

chance of recovery," writes J. Trueta, M.D., Chief of the Surgical Clinic, Hospital General de Datalunya, Center for Civil Defense in Barcelona, in the *Proceedings of the Royal Society of Medicine*, November, 1939.

Those superficial thinkers who wish to rush us into war, would lose much of the warmth of their enthusiasm if they could read Trueta's account of the maiming and killing of civilians by bombing raids, and then conceive of themselves and their families as being under fire.

"In many raids," this author continues, "there are persons so seriously wounded, with multiple fractures, internal hemorrhage, or crushing injuries of the chest or abdomen, that no surgical treatment is of any use. . . . Features common to all those injured in air raids, especially those who have been wounded by falling buildings, are the great fall of blood-pressure, the pale color of the face, and the *clear consciousness*. It is very impressive to see a great collection of wounded directly after an air raid, because of their extreme stillness and the absence of crying or moaning, in spite of serious wounds, which contrasts with the excitement and noise made by relations and friends.

. . . The abdominal wounds produced by large bombs are always the most grave. Many of these patients are dead on the arrival of the surgeon, and others have such great eviscerations that attempts at intestinal reconstruction are impossible."

Picture these conditions clearly in your minds, and then tell your representatives in the Congress (including the senators) just what you think about getting us into this present war.

R. L. G.

★ Notes and Abstracts ★

Depression Following Operations

A COMMON cause of post-operative upset is the Ghoul—a visitor, usually feminine, who overflows with sympathy but is really intent on discovering gruesome symptoms which she may describe to her acquaintances. She stays a long time and makes great demands on the attention and politeness of the patient.

The patient's reaction to comments upon his operation or illness may be almost disastrous. A pneumonia patient who returns home, to be questioned by a neighbor as to the existence of a history of tuberculosis in his family, will be filled at once with unending doubts. One knows the sort of remark: "I never quite understood what your poor dear brother died of. It was something wrong with the chest, wasn't it?"

A commoner cause of trouble is the sudden return from care and attention at the hands of pleasant people to the worries of home and business. We doctors cannot prevent this, except by the usual exhortatory measures and the example of our

own courage. Only too many of our patients, in these days, are the victims of personality conflicts, the wounded soldiers of the radio barrage, and the screech of the daily newspaper. They have little enough to look forward to, and it is not to be wondered that sometimes their courage fails. One thing we can do is to prescribe a tonic, insisting upon its virtues and regular administration. People still believe that tonics are magical and, if they contain strychnine, they often justify the belief.—*Med. World* (Lond.), Nov. 24, 1939.



The Approach to the Patient

AN individual seeks the advice of a physician either because something interferes with self-preservation, self-propagation, or self-comfort. Other things do not matter, from a physical point of view. It is true they may be economic or spiritual, and as such are camouflaged under a more indefinite physical disguise.

There is no more important approach to the elucidation of disease than a carefully-taken history. In the history of complaints is to be found the reason for the patient's seeking medical aid. *If it were not always so, physicians and surgeons would have no patients.*—J. C. MEAKINS, M.D., in "The Practice of Medicine" (C. V. Mosby Company, Publishers, St. Louis).



Two Hours and Twelve Minutes a Day*

Work for two hours each morning,
Struggle and sweat and groan;
Work for a hard-earned dollar,
But know it is not your own.
For, as the deficit deepens
And the rate of tax ascends,
You work through the morning earning
The cash that politics spends.

So work for the fads and fancies,
The surveys and questionnaires—
Political necromancies
That are hampering your affairs;
Work for the office-holders,
Professor, theorist, clerk;
Work to support the scolders
Who are damning you while you work.

Work for the foreign "isms";
For those who are preaching hate;
Work to finance the snooping
Of those who "investigate";
For the bureaus, Boards, and commissions
That are putting you on the shelf;
Work for the politicians
Before you can feed yourself.

But when, by your hours of working,
The great tax maw is filled,
Then work for the institutions
That the Founders died to build.
Work to throw off the shackles
Now slowing us down to a crawl.
Work, or the day is coming
When the tax will take it all.

ANONYMOUS.



The Physician Anesthetist

It seems to me that, in connection with every hospital, there might well be a physician who has prepared himself to offer as high a type of anesthesia service as possible. This would be a special boon to hospitals not requiring a sufficient number of anesthetics to warrant the employment of a full-time, well-trained anesthetist.

If anesthesia is to be only a part-time activity, it certainly can best be done by a physician. I do not mean a physician who regards it as a make-shift, or an undesired stepchild, or as a *personal right*, regardless of his lack of skill, simply because he brought the patient in. I mean one of the community's physicians who is keen in other things, who sees in anesthesia an opportunity for expression of a high type of medical skill, and

who will take as much interest and pride in bringing to the community's surgical patients the best obtainable in anesthesia as he does in diagnosis and treatment of disease in general.—RALPH T. KNIGHT, M.D., in *Anesth. & Anal.*, Nov.-Dec., 1939.

★ Books ★

Propaganda in War

Rogerson

PROPAGANDA IN THE NEXT WAR. By SIDNEY ROGERSON. London, Eng.: Geoffrey Bles, 1939 (American Distributors, Madison and Marshall, Inc., 18 E. 48th St., New York, N. Y.). Price, \$1.85.

BEFORE the World War, scarcely anyone in this country had any clear idea what propaganda meant. Now we are "sensitized" to the word, but still very few people have the slightest conception what a vast and complex business the manufacture of propaganda has become. Here is a splendid—and rather unexpected—chance for us to remedy this dangerous defect in our education.

Some time before this present war broke out, the people who run the government of the British Empire decided to have everything in readiness to start their propaganda machine at full speed when the need arose; and in order that all good Britons might know how the thing worked, Mr. Sidney Rogerson, "with years of experience of commercial advertising behind him," set it all down, black on white, so that all Britons might know how to do their part. He appears to have forgotten that we, on this side of the Atlantic, can also read English, or felt sure that we are so dumb (his confidence in our dumbness is frequently and frankly expressed in his writing) that, even if a copy or two of his book did, by accident, chance to reach this country, we wouldn't know what it was all about. Senator Gerald P. Nye, of North Dakota, got hold of one of those carelessly overlooked copies, and told a shocked nation about it, through the *Congressional Record*, April 25, 1939. He thought he had the only copy of it in the country then, and perhaps he was right. But not now! When people heard about it, the demand for copies became so pressing that it had to be supplied, so here it is.

Here are a few choice bits: "Admittedly, propaganda is an unscrupulous weapon." "In the realm of the cinema, we may be able to do without the natural bias of the U. S. film manufacturers" in favor of Great Britain, as opposed to Germany, Japan, and Italy, and on their command of the machinery of international film distribution." "Since, on paper, our case towards neutrals appears to lack a mainspring, it will behoove us to manufacture* what we can and press it everywhere we can." "We shall, as before, send over our leading literary men and others well known in the United States, to put our point of view over the dinner table." (We're seeing them do it!) "Our news-reel men should be allowed to 'shoot' pictures of air raids (manufactured?)*, in order that a proper volume of 'horror' will be available in one of the few great countries where 'atrocious propaganda' will still be operative." "The 'other side' is always the aggressor in war propaganda!"

But we don't want to spoil your fun in reading this remarkable book (and every voter in the country ought to read it!) by giving you too much. Until you do read it, you can't believe it, even though you know that, on good authority, Britain spent more than a million and a half dollars last year on propaganda (mostly directed at us), and will probably spend five times that much this year—if she can manage to keep her war going that long.

Don't fail to read the most astounding and enlightening book of the year, written by a man who knows!

*From *Nation's Business*

*The emphasis and the parenthetical query are ours.—Ed.

The Seminar



(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.)

Discussions should reach this office not later than the 5th of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 2 (Diagnostic)*

Presented by J. S. Rodman, M.D.,
Philadelphia, Pa.

(See CLIN. MED. & SURG., Feb., 1940, p. 71)

RECAPITULATION: A. C., a physician of 63 years, was admitted with a chief complaint of pain in the right upper abdominal quadrant, of two weeks' duration. Following a respiratory infection, the patient experienced pain, followed by anorexia, nausea, occasional vomiting, and a slight tint of icterus. Dyspnea was present, which he attributed to a persistent cough.

Examination: His temperature was 98.6° F.; pulse, 116; respirations, 22; blood pressure, 122/80; there was tenderness over right upper quadrant and epigastrium; râles were heard at the lung bases. The heart sounds were distant, and the heart was enlarged 2 cm. to the left of the nipple (midcostal) line, but was regular in rhythm. The Wassermann test, blood count, and urinalysis were performed, without positive results being obtained.

Requirements: What is your diagnosis in this case, and why? What further studies would you have made, and why? Suggest treatment.

**Discussion by G. M. Russell, M.D.,
Billings, Mont.**

Diagnosis: Congestive heart failure, because of the enlargement of the heart and tenderness over the liver, which was probably also enlarged. The other symptoms were due to stasis.

Further studies required: X-ray pictures of the chest; an electrocardiogram; an icterus index test.

Treatment: Put the patient at rest in bed and digitalize him. Keep him under observation until the heart muscle is completely compensated and the heart has contracted to its normal size.

**Discussion by L. E. Williams, M.D.,
Kansas City, Mo.**

This is the kind of case where one is tempted to make multiple diagnoses. However, I always feel that in most instances one diagnosis will account for all of a patient's symptoms. In this case, however, I find it difficult to hazard a diagnosis from the information available, but I believe that x-ray studies of the chest and gastro-intestinal tract will clear up the situation.

*Adapted from Rev. Gastroent., 1939.

Is the trouble in the abdomen, or the chest, or both? If in the chest, what organs are involved? Is it the liver, gallbladder, stomach, or pancreas?

While it is possible that the primary condition is in one of these organs, and the lungs are involved secondarily, I find nothing in the history to substantiate such a view. The patient is intelligent, and yet he states that the first abdominal symptoms developed two weeks after an infection of the respiratory tract. Of course it is possible that the respiratory infection lowered his resistance to such an extent that the silent or latent disease of his stomach was suddenly fanned to an acute condition.

The patient has a cough and dyspnea. I think that both are due to the same cause. If the dyspnea is of cardiac origin, the heart findings do not justify such a conclusion. There are râles in the chest, indicating some pulmonary pathosis. The heart is enlarged two centimeters to the left of the mid-costal line, yet the blood pressure is only 122/80. This does not suggest a hypertrophied heart, nor do the pulse rate and rhythm indicate a dilated one. The heart sounds are distant, which may be due to a muscular chest wall, to fluid, or to compensatory emphysema, the latter, I think, being the most probable.

If the heart displacement is not due to hypertrophy or dilatation, it must be due to adhesions, fluid, or a mass. If due to a fluid, we would expect to find flatness at the base of the right lung and the temperature is not likely to be normal, as it is in this case. However, it is possible for a mass to be present in the chest, especially in the mediastinum, and escape detection by percussion, due to intervening lung tissue. If there is an intrathoracic growth, then the abdominal symptoms are accounted for. These may be due to inflammation of the diaphragmatic pleura or to metastasis in the liver.

My tentative diagnosis is *neoplasm of the lungs or thorax*.

**Discussion by A. E. McMahon, M.D.,
Glenwood City, Wis.**

A review of the history, and the physical and laboratory findings in this case, strongly indicates that the patient's chief trouble (probably his only trouble) is *congestive myocardial failure*. The patient erroneously attributes his cough and dyspnea to his recent respiratory infection. I have a feel-

ing, however, that upon close questioning one could find that he had had some dyspnea and possibly some cough antedating the respiratory infection. These symptoms are due to pulmonary congestion, secondary to decreased myocardial efficiency.

The symptoms of pain in the right upper abdominal quadrant, nausea, vomiting, and anorexia, are, I think, due to *passive congestion of the liver*—a very common finding in myocardial failure. No mention was made as to whether or not the liver was enlarged, but in a case like this, one would expect to find its edge palpable below the right costal margin, smooth, and tender to pressure. The slight icteric tint is a finding which might easily accompany passive liver congestion.

In addition to the myocardial failure, other conditions which might be present are: (1) a *mild, catarrhal jaundice*. (This patient's pulse rate is 116. In true catarrhal jaundice the pulse rate is usually slow in proportion to the fever, if, indeed, there is any fever. A van den Bergh test would settle this point); (2) *cancer of the lung*, primary or secondary. (An x-ray study of the chest, and, if necessary, bronchoscopy should be employed to determine the possibility); (3) *gastric malignant disease*. (Stool examinations for occult blood, while the patient on a meat-free diet, test meals, and x-ray and fluoroscopic examinations would suffice to prove or disprove this idea).

However, this patient is already in distress, and before any diagnostic procedures are undertaken, which might add even temporarily to his discomfort, he would receive treatment for the myocardial failure, somewhat as follows: (1) Complete rest in bed; (2) restriction of fluid and salt intake; (3) digitalization. If additional measures were required, he could be given Salyrgan, 1 cc. intravenously, twice a week, each dose being preceded by the administration of 5 grains of ammonium chloride daily, in divided doses (using enteric coated tablets), for two days. Salyrgan and ammonium chloride are very efficient in reducing edema and passive congestion due to myocardial weakness. It should *not* be given to edematous patients with marked kidney disturbance.

If and when the myocardial compensation is re-established and the patient appears to be definitely on the mend, the other diagnostic procedures mentioned above may be employed, if it seems necessary.

Solution by Dr. Rodman*

Roentgen-ray examination of the chest confirmed the diagnosis of *cardiac enlargement*. Rest in bed and adequate digitalization resulted in a rapid de-

crease in size of the liver and of the associated tenderness and pain.

The stretching of the liver capsule by the retained blood causes pain in the right upper quadrant. Icterus is rarely visible in cases of cardiac failure, as it was in this case.

Comments by George B. Lake, M.D., Waukegan, Ill.

This case should remind us all of the fact that abdominal *symptoms* do not, necessarily mean abdominal *disease*, since the human body is all one *organism*, in which all parts act upon and are influenced by all others. Many cases of cardiac disease are diagnosed as "indigestion."

It should also remind us that we rarely encounter complete, textbook pictures of any specific disease, so that, when any of the characteristic symptoms of some condition appear, we should be alert to recognize them and follow them through. In this case, x-ray and electrocardiographic studies were clearly indicated in making a definite diagnosis.



Problem No. 4 (Medical)*

Presented by Leo Crip, M.D.,
Pittsburgh, Penn.

A MAN, age 34, stated that he had been subject to attacks of dizziness for as long as he could recall. These attacks occurred several times a day, sometimes for 2 or 3 weeks at a stretch. They were usually associated with some decrease in hearing and culminated in a cold sweat. On some occasions there was partial loss of consciousness. Belching of gas and nausea appeared with some attacks. Sometimes the patient "passed out" completely during one of these attacks, and at other times he felt as if he were going to faint. He does not like to eat pork or eggs, as he thinks they bring on an attack.

The *general physical examination* was negative. The *blood counts* were normal and no eosinophilia was found. The *hearing* in both ears was practically normal. Vestibular tests and audiograms gave practically normal results, therefore the vertigo could not arise from organic lesions of the internal ears or brain. Urinalysis and other laboratory tests were negative.

Requirements: Suggest possible causes for these attacks, *giving reasons*. What further examinations would you require to clear up the diagnosis? Suggest treatment.

*Adapted from Penn. M. J.

*Adapted from Rev. Gasterent., Sept.-Oct., 1939.

CONFLICTS

Conflicts should not be avoided. If not excessive, they are desirable. The human mind is developed and built to stand them, just as the eye can resist some glaring light. Often a gradual habituation, such as life naturally forces upon a person, may be necessary. Conflicts and clashes of ideas occur in infancy and childhood, which is the period of apprenticeship for later living. While the child should be spared sudden and difficult conflicts, it should not be overprotected from them.—B. LIBER, M.D. in Med. Rec., Nov. 15, 1939.

Clinical Notes and Abstracts

★

Diagnosis of Obscure Fevers*

OBSCURE diseases can be divided into two groups: (1) Specific diseases which are not diagnosed because the practitioner is unfamiliar with them on account of their rarity; because he does not realize that they may occur in his neighborhood; because their clinical picture, at least in certain stages, is uncharacteristic; or because their local manifestations occur in unusual or hidden localities; and (2) fever which is caused by processes which are not infectious at all; which, for this reason, the practitioner does not usually associate with fever; and which he may not even consider in attempting to reach a diagnosis.

Unsuspected causes of fever: (1) *Drugs*, such as iodides, belladonna, and sulfanilamide, often result in fever and skin eruptions; (2) diseases of the central nervous system, which are non-infectious, because of the disturbance of the heat-regulating mechanism; (3) dietary abnormalities; (4) obstinate constipation (very rare); (5) *goiter* and other diseases associated with increased metabolism; (6) *malignant tumors* (common, especially if they are growing fast); (7) *blood diseases* (anemias, leukemias, Hodgkins' disease); and (8) influenza, typhoid fever, or rheumatic infection may be followed by a chronic, low-grade fever, years after all evidences of acute infection have disappeared, possibly due to disturbances of the heat regulatory centers.

Cabot's work has shown that the commonest causes of obscure fevers are not rare diseases, but *atypical forms* of common diseases. It is agreed that the *commonest* causes of obscure fevers are tuberculosis, sepsis, and typhoid fever (there were more than 300 cases of typhoid and paratyphoid, in New York City alone, in 1938). In making a diagnosis of typhoid fever, it may be necessary to base it upon the general course of the disease, the absence of polymorphonuclear leukocytosis, and on laboratory procedures other than the Widal reaction, such as the isolation of the bacillus from the blood stream, the urine, or the feces.

In obscure fevers due to tuberculosis, we have become too prone to *think only of pulmonary tuberculosis*, and to forget acute miliary tuberculosis and tuberculous infections of the peribronchial or mesenteric glands, the peritoneum or intestines, the urinary tract, and the fallopian tubes, which are more common causes of obscure fever than is pulmonary tuberculosis.

In detecting miliary or peribronchial gland tuberculosis, we must not forget x-ray studies; the diagnostic use of tuberculin in doubtful cases; examination of secretions for tubercle bacilli, in intestinal and urogenital tuberculosis; and the study of the *blood picture* which, in active lesions, often shows a persistent increase above the normal ratio in the relative proportion of lymphocytes to monocytes, and the presence, in the circulating

blood, of modified monocytes and epitheloid cells.

Cases of *sepsis* which cause diagnostic difficulty are apt to be those in which the primary focus of infection is located in unusual situations or is hidden. Frequently a diagnosis of sepsis can be made, with some confidence, from the clinical picture alone, but inability to isolate the causative organism from the blood or to locate the original focus hampers treatment. It is to be noted, too, that confusion may be due to the fact that organisms which usually produce a characteristic clinical picture may localize it in unusual places, as when the meningococcus causes a prolonged, low-grade, general septicemia, instead of acute meningitis, or the typhoid bacillus causes an acute meningitis. Erysipelas may be missed because it is located on the hairy scalp; and infections of the deep lymphatics or veins of the legs may be overlooked on account of an inadequate or superficial examination.

Foci of infection may be silent in the brain, the sinuses, the tonsils, the teeth, middle-ear or mastoid, the bones, the appendix, the perirenal tissues, the subdiaphragmatic area, or the biliary passages. A *reinfection of a rheumatic heart valve* may cause no change in signs and give no hint of its presence, until evidences of embolism appear.

It is well to remember that many of them are secondary rather than primary; i.e., brain abscesses are usually secondary to either middle ear or pulmonary disease, and diseases of the sinuses, middle ear, or mastoid are usually secondary to upper air-passage infection. A history of a preceding boil can often be obtained in cases of perirenal abscess, and a history suggesting perforating peptic ulcer in cases of subdiaphragmatic abscess. This group of patients indicates the great importance of examining the patient *literally from head to foot*, and it is in this group that a diagnosis is often not reached until every possible method of examination has been exhausted.

Typhus fever, Rocky Mountain spotted fever, and undulant fever (brucellosis) must not be overlooked. The last-named disease may cause a fever of one or two weeks' duration, and the early attacks of fever often have little effect on the patient's general health, so that he may continue at work while running a high temperature; there are few physical signs; anorexia, constipation, abdominal pain, and joint pains or definite arthritis (red-den, swollen joints) may appear. The skin test is often necessary for a diagnosis. Leukopenia and mononucleosis are often present.

GEORGE BLUMER, M.D.

New Haven, Conn.

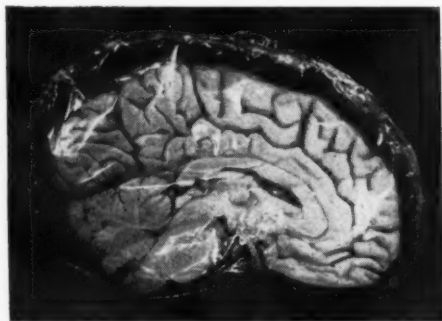


"I can't afford to drop CLINICAL MEDICINE AND SURGERY, for it is my main standby.—Dr. D. H. N., Minnesota.

*Med. Rec., Oct. 4, 1939.

Pliofilm Covers for Brain Specimens

A new technic for the preservation of brain specimens for demonstration and classroom use, or during transportation by airmail, express, or in personal luggage, has been developed by Dr. L. Wallingford Darrah, of Northampton State Hospital, Northampton, Mass. The new process involves the use of Goodyear's rubber hydrochloride packaging material, "Pliofilm."



Courtesy, Goodyear Tire & Rubber Co.

Fig. 1.—Brain Specimen in a Pliofilm Container.

Because brain specimens ordinarily are preserved in formalin or some similar solution, transportation of specimens usually involves the use of glass, stoneware, or other heavy containers. Dr. Darrah, who has frequent occasion to lecture on neuropathology and related subjects, decided to make his own containers of Pliofilm, which is impervious to air, alkali, grease, normal heat and cold, moisture, mold, oil, vermin, and water. It also is transparent and can be sealed at high speed with heat alone, either by hand or machine (see Fig. 1).

Dr. Darrah has experimented with several methods of making his envelope-like containers. One method is to take a sheet of Pliofilm of the desired size, which is folded double. The two outer sides are then heat sealed with a small iron designed for the purpose and available from most stationery and department stores. This results in an envelope, the bottom of which is the fold of the Pliofilm sheet and the two sides the heat sealed edges. The top is open and the brain specimen is inserted, after which the top also is heat sealed, completing the job.

Brain specimens should be in a 10 percent formalin solution for at least two months prior to their preparation as described. After the formalin treatment they may be lifted directly from the solution into a Pliofilm envelope and sealed, if care is exercised to be sure edges being sealed are perfectly dry. The surplus solution will not damage the container. If more desirable, they may be rinsed in cold water, dried lightly with a towel, and then sealed.

Another practical method of making these containers involves the following steps: A single sheet of Pliofilm is doubled, as in the other method described, but only the top (that portion opposite the fold) is heat sealed. This results in an oblong sack, open at both ends. The specimen is inserted and both ends then are twisted up tightly

and the twists heat sealed. This method results in a form-fitting container that is neater in appearance than the loose envelope type accomplished by the envelope method.

Pliofilm containers are not indicated for the permanent preservation of specimens, but they will remain in good condition for several months, if kept in a cool place when not in use. This method should be adaptable to all types of pathologic specimens.



Dental Abscess and the Physician

IN the February issue of *CLINICAL MEDICINE AND SURGERY*, the case report on "Sulfanilamide in Dental Abscess" by John C. Rommel, M.D., Philadelphia, Pa., on page 73, intrigued me greatly.

Your editorial comment, "It is a bit difficult to understand why Dr. Rommel attributes the good result in this case solely to the sulfanilamide, when the patient was also receiving vaccine treatment" is, in my opinion, far from sufficient. I would add that it is far more than a bit difficult to understand why Dr. Rommel, a physician, who apparently knows nothing about dental pathology, should have intruded into the dental field and undertaken to treat teeth which have become acutely infected from a cause clearly of dental origin. It is also difficult to understand what justification there was for abusing the patient's body by the administration of vaccines and sulfanilamide until he actually became "dizzy and markedly cyanotic," as admitted by the honorable doctor himself.

Dr. Rommel stated: "The affected areas now seem entirely normal; the teeth are no longer sensitive to cold; the abscesses have healed and left no trace." This is superlative unscientific nonsense. When an acute alveolar abscess of a tooth, in the usual course of events, opens spontaneously and pus is evacuated, the swelling subsides, the tooth no longer responds to thermal stimulation, hot or cold, and frequently the fistulous opening (at least superficially) appears to have healed. The tooth now has a necrotic pulp, and periapically an area of rarefaction harboring micro-organisms (streptococci veridans) may develop.

The tooth with a necrotic pulp, with or without a periapical area of rarefaction, may be considered a focus of infection and a greater potential danger to the host than ever before.

KANNON SHEINMAN, D.D.S., F.I.C.A.
New York City.



The Immediate Treatment of Injuries*

MANY a medical student and intern has dreamed of the day when his big moment would come—when the opportunity to demonstrate his ability would suddenly, and perhaps dramatically, present itself—and has told himself, again and again, just what he would do under such circumstances.

Today, one can promise him, with assurance, that the opportunity will come very early in his career, in the form of a badly lacerated forearm or face; a hand or forearm with division of nerves and tendons; an avulsion of skin and soft tissues from an upper or lower extremity; a compound fracture of both bones of the leg. The summons

**Surg. Gynec. & Obst.*, May, 1939.

will probably come in the early hours of the morning. He will not be asked to present his credentials of membership in the College of Surgeons or any other organization; a plain "M.D." will suffice. He will only be implored to hurry, and asked for assurance that life will be saved and there will not be hideous and deforming scars as a result of the injury.

Will he accept the chance and "field" the ball perfectly? Much depends upon his understanding of two golden principles of good surgery—patience and gentleness: Patience, because the transformation of a lacerated, badly contaminated wound into a clean surgical wound, susceptible to immediate repair, is no task for the impetuous and irritable surgeon, whose motto is speed. Gentleness, because living tissues are delicate, fragile structures that respond in a remarkable fashion to gentle handling, but that can be destroyed by chemical and mechanical trauma as easily as the petals of a fragile flower.

The most satisfactory first-aid dressing is a sterile dressing and a pressure bandage, to stop oozing of blood, and nothing more. Why? Because forceps, not completely sterilized; catgut ligatures applied in haste; interested bystanders with uncovered noses and mouths talking excitedly over an open wound—these possible sources of infection we have come to fear more than the knife or glass or metal that caused the wound.

As soon as possible, preferably in an operating room, the area about the wound should be cleansed with plain white soap, which is less irritating than green soap, and with soft sterile cotton, held in hands covered by sterile gloves. If the wound is clean-cut (the result of a knife or glass) and looks perfectly clean to the naked eye, irrigation with saline solution should be given into the wound. Otherwise, the wound itself should be washed gently, patiently, and thoroughly, in the manner suggested, and then irrigated with warm saline solution. A blood pressure band, to secure hemostasis; sterile retractors, to expose the depth of the wound during the process of irrigation; and careful masking of everyone in the room—all are important details.

Reduction of fractured bones, preservation of tissues whose blood supply is still intact, complete hemostasis, suture of divided nerves and tendons, accurate wound closure, a large dressing so as to apply uniform and elastic pressure over the wound area, and a splint to immobilize the injured tissues and favor healing, are essential.

If one is doubtful as to the completeness of the cleansing process, or if more than six hours have passed since the injury, further exposure of tissues should be omitted and structures should not be repaired, if further dissection is or may be required. The covering tissues should be left open or loosely sutured.

SUMNER L. KOCH, M.D., F.A.C.S.
Chicago, Ill.

Tracheitis

A PART from the operation of tracheotomy, but little attention is paid to the pathologic processes of the trachea. "Tracheitis" is frequently mentioned as the cause of a chronic and annoying cough, which apparently has but little relation to the bronchi or the lungs.

Symptoms: A hard, dry, irritating, spasmodic cough, with scanty expectoration and a feeling of strangling; hoarseness; "soreness" on pressure just above and behind the sternum. The expectoration of scanty, tenacious, sputum with grey masses and soot-like particles, gives great relief.

The tracheal participation in the respiratory forms of influenza, pertussis, sinusitis, diphtheria, and even as a sequel of the common cold, should not be overlooked, as "the cough is tracheal in origin and very often the lungs are not involved (Chevalier Jackson)."

Treatment: (1) Administer sodium bicarbonate in moderate doses every three hours, to control the strangling cough; (2) give hot steam inhalations of benzoin, pine, chlorotone, and other non-irritating medicaments; (3) thirty percent guaiacol in glycerin, freely applied to the suprasternal notch and well rubbed in; will often give a comfortable night; (4) the nose and pharynx should be treated to maintain ventilation. The ordinary cough mixtures often fail in this condition.—BURNETT HAM, M.D., in *Brit. M. J.*, July 29, 1939.

Potassium in Allergic Conditions

THE oral administration of small doses of potassium chloride relieves the symptoms of seasonal hay fever and other allergic disorders, with the exception of chronic asthma. Urticaria is occasionally benefited. Striking results have been obtained in children suffering from hay fever combined with asthma. Allergic (vasomotor) rhinitis is also benefited by potassium chloride. After from three to five days' treatment, the nasal mucosa loses its pale, boggy appearance, the edema of the turbinates decreases, and the watery nasal discharge ceases.

Potential harmful effects: The drug must not be used in patients suffering from Addison's disease (hypoadrenia), and possibly also in the presence of disturbed renal or cardiac function. Untoward reactions have followed its administration in patients with chronic asthma. Side-effects are mild diuresis, rarely diarrhea, and slight rhinorrhea.

Dose: The dose needed for effective relief may vary from 5 grains three times daily to 10 grains six times a day.—Editorial in *E. N. & T. M.*, Oct., 1939.

Treatment of Pruritus Ani

IN pruritus ani, cleanliness of the affected area is essential. A thorough but gentle washing will, in itself, reduce the intensity of the itching, although it takes very little rubbing of the area to increase the symptoms. Gentleness in cleansing is, therefore very important. The use of warm water and a relatively non-irritating soap (such as Ivory), applied to the area with soft cotton or very soft cloth, is to be recommended. Drying of the area after washing is to be recommended. Underclothes should be boiled, to prevent reinfection, and a daily change of underwear is necessary. It is almost impossible for an individual, even in a tub bath, to clean out thoroughly the sulci of the perianal region, for which reason it is important that this be done by the physician, when feasible, as a preliminary to the use of any local application.

The small excoriations which result from

scratching and moisture can be made to heal fairly well by applying 10-percent silver nitrate solution with a small applicator until the skin appears white. A 3.5 percent solution of iodine is surprisingly well tolerated by most patients, after the use of the nitrate. Almost invariably, the patient is free from itching and, after a good night's sleep, is ready to begin the application of an ointment in the morning.

Fungicidal ointments: Salicylic acid, 2; benzoic acid, 4; lard, 30; or salicylic acid and precipitated sulfur, 2 of each; petrolatum spissum, 30. These preparations are rather strong and produce a burning sensation, but permanent relief is often obtained.

—E. PARKER HAYDEN, M.D., in "The Rectum and Colon" (Lea & Febiger, Publishers).



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Potassium Permanganate in Phagedenic Ulcer

THE rapidly sloughing ulcer, characterized by its foul smell and progressive character, and named phagedenic or tropical ulcer, may be checked by cauterization with potassium permanganate. Any form of excision short of amputation is not only insufficient, but is liable to be followed by a rapid increase of the general septicemic process, and death.

Technic: A saturated (5-percent) solution of potassium permanganate is made up easily by dissolving crystals of the chemical until a few remain undissolved. A pledget of cotton is dipped into the solution, and the fact of full concentration established by finding crystals adhering to it. Excess solution is removed, and then the applicator is pressed into the sloughing floor of the ulcer. Small sloughs seem to be burned away by this process. Larger sloughs are freed as much as possible, on all sides, and removed with scissors. Dead skin must be removed, to permit the application to reach all involved areas.

The areas treated with permanganate take on the appearance of a freshly tarred cavity. The applications are continued until the patient feels the burning (no anesthetic need be used). The smell disappears long before cauterization is completed. The ulcer is finally filled with iodoform-boric acid dusting powder and bandaged until the next day. In an average case the ulcer will then show a large granulating surface, with a few patches of active invasion, which may require an additional treatment on the third day. Similar treatment has been used for sinuses containing sequestra, which are then filled with glycerin and boric-iodoform solution.—K. W. TODD, M.R.C.S., in *Brit. M. J.*, Sept. 30, 1939.

[Such treatment may be used in discharging cancers and operative wounds, to kill anerobic bacteria and reduce foul odors.—Ed.]



Inclosed find \$3.00 for renewal of subscription to CLINICAL MEDICINE AND SURGERY. I find your journal very interesting and informative.—I. C. V., M.D., Conn.

Treating Skin Diseases*

ANY practitioner can memorize a mass of formulas and be prepared to write as many as fifty prescriptions of ointments, and append to each prescription the name of a disease for which that ointment is especially suitable, but he will find that an ointment which cures one case of eczema, for example will aggravate another case of the same complaint. *The whole art of prescribing for dermatologic conditions lies in being able to determine what strength of medicament any given area of skin will "stand."*

The tyro will find that his safest course is to prescribe only small percentages of his remedies, and to increase their strength as occasion requires. He will be pleasantly surprised to find what success he can obtain by the judicious use of a few remedies, provided he knows their limitations and indications.

Thick, heavy dressings are avoided by the dermatologist when dressing inflamed skin surfaces. Muslin or gauze should be used.

Do not use an ointment in acute conditions, as the fatty or oily base will cause retention of serum and heat. For all acute conditions, *lotions* should be prescribed; when the condition improves, *pastes*, which contain only 50 percent of fatty base, or *creams*, which are ointments containing water, should be used; and finally, to complete the cure, one may pass on to ointments.

Soap and water irritate acute conditions. The skin should be cleansed with olive oil, almond oil, or liquid paraffin. Crusts may be removed with olive oil, or a starch and boric acid poultice.

R. M. B. MACKENNA, M.D.

Liverpool, Eng.



Treatment of Neurasthenia

NO other syndrome in the entire field of medicine and surgery has had poorer methods of therapy applied to it, than has neurasthenia. Neurotic patients, who unload their hearts to the family physician, may have received nondescript pills, tonics, or a pat on the back, and may have been admonished to go home and forget their various symptoms.

Injections of liver extract; injections of histamine, in small doses; and the oral administration of haliver oil and malt, form the basis for medicinal therapy. The first half-dozen injections of graded doses of histamine ameliorate the symptoms, so that psychotic patients appear rational. The fifth dose is usually 0.5 cc. There is a tendency for the pulse to become stronger and more rapid, and the face to flush. (*Med. World*, Sept., 1939).

Any words or subjects to which the patient is "mentally allergic" are re-introduced until the patient suffers no reaction to them. This is a process much like desensitizing a patient who is allergic to ragweed, by injecting graded doses of ragweed pollen until he becomes passive to the allergen.

A red blood-cell count that is below normal may affect some persons very markedly, so that injections of liver extract should be given.—WALLACE MARSHALL, M.D., in *Miss. Val. Med. J.*, Sept., 1939.

*"Aids to Dermatology and Venereal Diseases" (Williams and Wilkins Co.)

Diagnostic Pointers



Adolescent Synovitis of the Knees

● In youth, and particularly in boys who have "outgrown their strength," recurrent attacks of synovitis of the knees may be due to nothing more serious than lax crucial and lateral ligaments. This type of boy in whom football or running will, not only cause pain, but usually a mild degree of swelling as well. There is nothing abnormal with these boys except a laxity of the ligaments, for which there is only one remedy, and that is a *lapse of time*. After a year or two, the ligaments lose their abnormal elasticity and the joints become completely normal, provided adequate care is taken. Skiing is particularly for youngsters of this type.

The tendency is to consider the recurrent attacks of fluid represent recurrent attacks of "rheumatism." They are purely traumatic. In elderly people, with the same symptoms, care and roentgenographic films may prove that the cause is Paget's disease. — JAMES MENNELL, M.D., in *Brit. Jour. Rheum.*, June, 1939.

Gastric Ulcer Versus Cancer

● By studying the mucosa of the stomach with x-rays, one finds that mucosal lines lead directly to the crater of a benign ulcer. The lines do not closely approach the crater of a malignant ulcer—H. A. RAFSKY, M.D., in *Scientific Exhibit, A.M.A. Meeting*, May 18, 1939.

Hyperthyroidism in Adolescents

● The nervous phenomena of toxic goiter in adolescence are not quite the same as those in adult life. The tremor in the 15-year-old girl with hyperthyroidism is of less significance than it is in the 30-year-old woman. As a matter of fact, the nervousness is apt to be manifested, in adolescents, by *irritability and restlessness*, even to the point where diagnoses of chorea have been made, rather than by the tremor.

Eye signs are of more diagnostic importance in children and youths than in adults. They may vary from a definite stare to frank exophthalmos.

Advanced sexual development for the age of the child is almost always noted.—R. B. McKNIGHT, M.D., in *South. Surg.*, Oct., 1939.

Grease Gun Accidents

● The high-pressure grease gun used for the lubrication of automobiles has resulted in a new type of industrial accident. As the grease is introduced at a pressure of 7,000 pounds, a slight slip may mean that an ounce or two of grease may be injected into the deep structures of the palm. Immediate symptoms are not necessarily dramatic, but gangrene is threatened and can be avoided only by multiple incisions.—*Medical World*, April 14, 1939.

Unrecognized Hypothyroidism

● Many patients could be helped by thyroid therapy, were they but recognized as being hypothyroid. Standard texts subdivide hypothyroidism into myxedema and cretinism, and refer to the basal metabolic rate as the diagnostic criterion. However, there are other important manifestations of hypothyroidism and methods of investigation, based upon recent advances in the knowledge of thyroid physiology. Endocrine factors are important in migraine, arthritis, acne vulgaris, hypertension, fatigue, and growth and sexual disturbances.—GEORGE K. WHARTON, M.D., in *Can. Med. Assn. Jour.*, April, 1939.

Pregnancy or Tumor of the Uterus?

● It is important to remember that *amenorrhoea*, coupled with a finding of uterine enlargement, almost invariably establishes a diagnosis of pregnancy. Uterine enlargements resulting from other conditions are nearly always associated with *menorrhagia*.—P. B. BLAND, M.D., and T. L. MONTGOMERY, M.D., in "*Practical Obstetrics*" (F. A. Davis Co., Publishers).

Mumps Meningitis

● The possibility that, during an epidemic of mumps, meningitis, may be a complication where no parotid swelling is detected, must be kept in mind, because of the good prognosis in this type of meningitis. The character of the meningitis, in these exceptional cases, becomes revealed through the knowledge that some person in contact with the patient has recently been infected with mumps.

Meningitis complicating mumps begins with alarming symptoms. The children vomit, complain of severe headache, and the temperature rises rapidly to a high level. All the classical signs of meningitis may be found.—*Med. World*, April 14, 1939.

"Indigestion"

● Just because epigastric distress is relieved by alkalis, one cannot make a diagnosis of hyperchlorhydria or peptic ulcer. Alkalis may relieve the indigestion and "gas" associated with a mild, unsuspected coronary sclerosis.—J. S. RODMAN, M.D., in *Rev. Gastroent.*, Sept.-Oct., 1939.

Fluid in a Joint

● An unfortunate delusion seems to have arisen that fluid in a joint is an evil. The presence of fluid simply means that nature is attempting the process of repair, and therefore the continued presence of fluid means that recovery is incomplete.—JAMES MENNELL, M.D., in *Brit. Jour. Rheum.*, June, 1939.

Thumbnail Therapeutics



Prostigmin in Partial Deafness

● Twenty-eight (28) patients with tinnitus and acute blockage of the eustachian tube, most of whom had marked deafness, were given injections of 1 cc. of Prostigmin methylsulfate, 1:2000 solution, at intervals of from 3 to 5 days, supplemented by catheterization of the tube and massage, in most cases. There was rapid remission of the annoying symptoms and few patients required more than 5 injections, even when there had been loss of hearing for as long as one month.

Thirty-three (33) chronic cases of deafness were treated by similar injections two or three times weekly, with resulting gradual improvement, or *very slow* improvement; one case of trigeminal neuralgia was markedly relieved; other cases were definitely benefited, and the results point the way toward the management of similar nerve disorders.

Prostigmin should *not* be given to hyperthyroid patients, as prostration and extreme nervousness follows.—*E. E. N. & T. M.*, Oct., 1939.

Sulfanilamide in Chancroid

● Sulfanilamide is regarded, by the members of the University of Georgia Clinic staff, who have treated 113 cases, with doses of from 400 to 500 grains over a period of one or two weeks, as almost a specific remedy for chancroid. No surgical methods were adopted, other than aspiration of pus from fluctuating buboes. Patients who had previously shown no response to vaccine treatment, improved following sulfanilamide treatment.—*R. B. GREENBLATT, M. D.*, and *E. S. SANDERSON, M. D.*, in *Amer. J. Syph.*, Sept., 1939.

Relief of Pain During Delivery

● In the past eleven years, I have found that Amytal and Nembutal are effective in producing rapid cervical dilatation, considerable alleviation of pain, amnesia, and regular uterine contractions. The postpartum oxytocic effect is not abolished by this type of "twilight sleep." Sodium Amytal may be given rectally.—*J. I. HOFBAUER, M.D.*, in *J.A.M.A.*, Aug. 12, 1939.

Testicular Extract in Prostatic Hypertrophy

● Certain patients with impotence and low levels of urinary androgens, which we believe are the result of poor general health, have not been consistently improved. There is a group of patients with impotence, however, who have testicular deficiency as judged from the low level of urinary androgens, and in this group treatment with testosterone propionate brings about more consistent and more pronounced improvement.—*E. P. McCULLAGH, M.D.*, in *J.A.M.A.*, March 18, 1939.

Painful Scars

● After operations and accidents, a defective scar may develop, despite the most careful technic. Keloid formation, hardness, unsightliness, and pain are to be kept in mind.

An injection of Novocain (procaine) solution rapidly relieves the pain. Too little use is made of this remedy, which is of service for painful scars following both injury and operation. The way in which Novocain acts is still unknown, but it not only dispels the pain, but prevents its recurrence. The striking improvement in local circulation that follows an infiltration with Novocain suggests that the effect on the blood vessels is such that the pain is cured.—*Med. World*, (Lond.) April 28, 1939.

Varicose Veins and Ulcers

● Ligation of the saphenous vein is needed in one patient out of six with varicose veins of any size, if recurrences amounting to 60 percent are to be avoided. By careful ligation, the injection of all varicosities, and determination of the state of the valves in the saphenous and perforation veins, recurrences may be reduced to 12 percent.

The simplest, most satisfactory treatment for varicose ulcer is by compression with a rubber sponge (McPheeter's "sponge heart"), followed by injection and ligation of the veins. The patient is allowed to work and walk as much as desired.—*P. H. RAKOV, M.D.*, in *N.Y.S.J.M.*, Aug. 15, 1939.

The Removal of Sebaceous Cysts

● The point of a small, fine needle is inserted into the skin near the center of the cyst. A skin wheal is raised, with 1-percent procaine solution, which is, of course, outside of the sac of the cyst. Without changing the position of the needle, the injection is continued until 5, 10, or even 15 cc. have been injected. The fluid spreads around the sac in all directions, dissecting it from the outer layers of the skin. The anesthetic follows the lines of cleavage and tends to dissect out the entire sac, even though it may be a large one, so that when a shallow incision is made down to the surface of the cyst, it delivers itself almost with no additional aid. This is the method of F. Z. Havens, of the Mayo Clinic.—*R. T. KNIGHT, M.D.*, in *Minn. Med.*, Feb., 1939.

Hypodermoclysis

● Necrosis may follow the administration of a hypodermoclysis of physiologic saline solution, when given into edematous thighs. The injection of further fluids curtails the circulation even further. An inert solution may cause necrosis, if its presence impedes or blocks the circulation of the blood through the tissues.—*J.A.M.A.*, Sept. 24, 1939.



THE DOCTOR'S STUDY

Books are the masters that instruct us without rods or ferrules, without reprimands or anger, without the solemnity of the gown or the expense of lessons.—RICHARD DE BURY, in "Philobiblon" (1345).

Human Gastric Secretion

Ihre

HUMAN GASTRIC SECRETION. By BENGT J. E. IHRE, M.D., Lecturer on Gastroenterology at the Caroline Institute; Assistant Physician, St. Erik's Hospital, Stockholm. With a Foreword by Sir ARTHUR HURST, M.D., F.R.C.P. London, New York and Toronto: Oxford University Press, 1939. Price, \$6.00.

AMID the empiricism that is rather common in gastroenterology, this factual book stands out as a landmark of conservative statements and well-grounded experimental and clinical observations. Ihre has studied normal individuals and patients suffering from common gastroduodenal lesions (ulcer, gastritis, pernicious anemia) and recorded his findings in terms of free and total acid, pepsin concentration and amount, total chlorides, and dextrose.

His book makes stimulating reading. We have come to think of the stomach as a muscular bag, possibly from watching it too much through the fluoroscope, and forget that the stomach wall is a biologic membrane, through which hydrochloric acid can diffuse as well as be produced by certain of its cells. Acid introduced into the stomach loses in strength very rapidly.

Pavlov's observation, made in 1898, has never been utilized. He found that, if gastric juice were allowed to escape continuously through a gastric fistula, its acidity was higher than if it were left to accumulate and the pouch emptied every fifth minute, probably due to diffusion of the acid through the stomach wall. This point is of clinical value, as the hyperperistalsis of hyperacidity permits constant evacuation of stomach contents. As Ihre points out, the technic of recovering the juice influences its acidity, also. In fractional recovery or continuous aspiration with a small tube, quantities of gastric juice collect in the stomach and undergo a continuous reduction in acidity. For this reason, the author enlarged the gastric tube openings. If "stagnation of the juice in the pouch tends to lower gastric acidity," why has no one thought of feeding hyperchlorhydric patients with fatty foods, which cause delayed emptying of the stomach?

Throughout the book, the alert physician will find many observations that may be applied directly or which stimulate him to revising his management of ulcer and dyspeptic patients.

Many case histories are given, with full accompanying laboratory data and graphs of secretion following histamine and insulin, observations made during fluoroscopy and gastroscopy, and notes

made during the course of treatment, which correlate the experimental and clinical portions of the text.

The gastroenterologist and internist must have this book. The general practitioner who has not progressed beyond the stage where he expects one drug or another to relieve stomach symptoms, will learn much and practice better.



Dysenteric Disorders

Manson-Bahr

THE DYSENTERIC DISORDERS: The Diagnosis and Treatment of Dysentery, Sprue, Colitis, and other Diarrheas in General Practice, by PHILIP MANSON-BAHR, C.M.G., D.S.O., M.D., F.R.C.P., Senior Physician to the Hospital for Tropical Diseases, London; Director, Division of Clinical Tropical Medicine, London School of Hygiene and Tropical Medicine; etc., with an Appendix by W. JOHN MUGGLETON, M.S.M., Technical Assistant. Nine colors, fourteen black and white plates, and 106 illustrations in the text. Baltimore, Maryland: Williams and Wilkins Co. 1939. Price, \$8.00.

THE author feels that there is a need for a comprehensive account of the dysenteries, the various forms of colitis, sprue, helminthic diseases, and the different diarrheas, which form such a complex group in general practice.

The first section of the book deals with procedures (including sigmoidoscopy) for investigating a case of diarrhea or dysentery. The colored illustrations of sigmoidoscopic appearances of the rectum and colon are excellent.

The bacillary dysenteries; the protozoal dysenteries (amebiasis, balantidiasis, giardiasis, malarial and Leishmanian dysenteries, intestinal coccidiosis, flagellate diarrhea); the helminthic dysenteries; the infective diarrheas; the steatorrheas (including sprue and celiac disease); ulcerative, mucous, and toxic colitis; carcinoma; polyposis; actinomycosis; tuberculosis and syphilis of the colon; regional enteritis; lymphogranuloma; diverticulitis; intussusception; and hemorrhoids are all considered in the direct or differential diagnosis of diarrheal conditions.

The material is especially valuable because of the author's years of experience, in England and the tropics, in the bacteriologic, pathologic and clinical study of the dysenteric disorders. *Nowhere else, within the covers of one book, can be found the information assembled here.*

This work is intended primarily for the use of the general practitioner who, in the future, will be confronted more and more with diarrheal dis-

cases, whether due to worms, bacteria, or amebae, due to the rapid increases in spread of disease by increased travel. The undiagnosed amebic dysentery epidemic in Chicago, in 1933, is a case in point.

The information given on sigmoidoscopy will be welcomed by the physician who wishes to properly investigate a case of diarrhea or bleeding from the bowel. The lithotomy position is recommended as more comfortable for the patient, although it is technically a little harder to introduce the sigmoidoscope to its full extent in this position.

For those who are interested in the technical side of the diagnosis, an appendix is attached which gives full details of bacteriologic procedures, et cetera.

The well-rounded general practitioner, internist, and gastro-enterologist need this volume.



Cardiovascular Diseases

Scherf and Boyd

CARDIOVASCULAR DISEASES. Their Diagnosis and Treatment. By DAVID SCHERF, M.D., and LINN J. BOYD, M.D., F.A.C.P., Associate Professor of Clinical Medicine, and Professor of Medicine, respectively, New York Medical College, Flower and Fifth Avenue Hospitals. St. Louis: C. V. Mosby Company. 1939. Price, \$6.25.

THIS is a book on heart disease that the general practitioner and surgeon will use and enjoy studying. It contains no references to the rare cardiac disorders, discoverable only by the electrocardiogram, as the authors feel that the average practitioner does not have ready access to a cardiograph and does not feel himself competent to interpret its tracings.

The student who has been baffled by the difficulty involved in coordinating his clinical knowledge and the basic principles involved in heart affections will readily understand what certain clinical signs mean, after reading this book. Nocturnal dyspnea, instead of remaining a dramatic symptom of "heart disease," will be accorded its rightful place as a symptom of left ventricular failure. He is told that a slight form of Cheyne-Stokes breathing may be found in many cardiac patients who lie down for a few minutes, thus removing this symptom from its usual association with the death-bed.

The misleading symptoms of gastric, endocrine, and other disorders are fully explained.



Physiological Chemistry

Mathews

PHYSIOLOGICAL CHEMISTRY. A Textbook for Students. By ALBERT P. MATHEWS, Ph.D., Andrew Carnegie Professor of Biochemistry, The University of Cincinnati. Sixth Edition. Baltimore: The Williams and Wilkins Company. 1939. Price, \$8.00.

AFTER twenty-five years, "Mathews" still remains the standard by which all biochemistry texts are judged. This present edition, the sixth, has been well revised. The trend is toward the bringing out of facts of clinical importance, so that the medical student and practitioner may readily coordinate physiologic chemistry in health and disease. This is especially true of the endocrine glands, metabolism, and vitamins.



Tumors of the Hands and Feet

Pack

TUMORS OF THE HANDS AND FEET. Edited by GEORGE T. PACK, M.D., F.A.C.S., Assistant Clinical Professor of Surgery, Yale University School of Medicine and Cornell University College of Medicine; Attending Surgeon, Memorial Hospital for Cancer and Allied Diseases, St. Louis: The C. V. Mosby Company. 1939. Price, \$3.00.

IT has been said that the ideal method of learning is by the study of a monograph—the short sketch or discussion on one field—written by

someone thoroughly conversant with that field.

This slender volume is an example of monographic teaching at its best. Several surgeons who have been especially interested in various tumors (Michael Masson, George Pack and Frank Adair, Ashley Oughterson and Robert Tennant, Alexander Brunschwig, Bradley Coley and Norman Higginbotham) have contributed brief chapters.

The discussions, originally prepared for a symposium in surgery, are intensely practical, and especially so in regard to the difficult question of differential diagnosis. Pack and Adair's presentation of subungual melanoma describes the conditions which may simulate this tumor. Early removal of the digit often saves life, but the diagnosis must be made before such stimulating procedures as curettment of the nail bed or conservative excision are carried out.

Tumors of the hands and feet are not common, but are tremendously important to the patient, because a small tumor may result in loss of life or needless loss of part of a hand or foot.

Carcinomas and angiomatous tumors of the hands and feet; tumors of the synovia, tendons, and joint capsules; and primary bone tumors of these areas, are discussed and well illustrated with photographs and roentgenograms.



Fractures

Magnuson

FRACTURES. By PAUL B. MAGNUSON, M.D., F.A.C.S., Associate Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Passavant Memorial Hospital and Wesley Memorial Hospital, Chicago. 317 Illustrations. Third Edition; Revised and Enlarged. Philadelphia, Montreal, London; J. B. Lippincott Company. Price, \$5.00.

MAGNUSON presents methods that work. He makes no attempt to follow every new technique that is announced, and remains conservative until convinced that a real advance has been made. This book is ideal for the student and the general practitioner, as it is highly dogmatic, brief, and well illustrated.

A typical example of the material presented is that under *clavicular fracture*. He describes and illustrates admirably the method of reduction by forcing the shoulder upward and posteriorly while the patient is lying on a small pillow or sandbag placed between the scapulae; then writes that the clavicular cross splint is most comfortable for the patient and retains the fragments best. This is a splendid example of wishful thinking, as no cross is comfortable and the fragments are not retained so well as they would be if immobilized in the proper position in a light castex plaster.

Shepard's illustrations make clear the anatomic and surgical features of various fractures and methods of handling them. The novice will learn much from the step-by-step directions for properly applying plaster casts and splints, and for reducing fractures.



Regional Anatomy

Jamieson

ILLUSTRATIONS OF REGIONAL ANATOMY. By E. B. JAMIESON, M.D., Senior Demonstrator and Lecturer, Anatomy Department, University of Edinburgh, Scotland. Second Edition. Seven Sections: Central Nervous System (48 plates); Head and Neck (63 plates); Abdomen (37 plates); Pelvis (33 plates); Thorax (30 plates); Upper Limb (42 plates) and Lower Limb (52 plates). Baltimore: William Wood and Company. 1939. Price, \$15.00 per set of seven volumes.

JAMIESON, who has carried out some of the most original writing and illustrating on anatomy, has improved his helpful series of anatomic drawings. There are seven separate, handy-size volumes, consisting solely of colored sketches of the various regions of the body. A few of the illustrations are schematic, so that the relationship of several structures on different planes may be grasped readily.

The student may remove the individual illustrations, which are printed on one surface of each

sheet only, and paste them into a notebook, or may keep them together and, by the use of contrasting colors, sketch bones over soft tissue structures, or vice versa. These rugged volumes may be taken to class and used as notebooks and as dissecting atlases.

The 295 illustrations are carefully prepared, as to size, proportions, and life-like appearance, achieved by accurate color printing.

The practitioner who cannot find what he wants in a large anatomy text will find here the pictorial details of any area that he may be interested in, either from the standpoint of caring for an injury, the surgical approach and important structures, or brushing up on anatomy for diagnostic purposes.



Stedman's Medical Dictionary

Stedman and Garber

STEDMAN'S PRACTICAL MEDICAL DICTIONARY.

By THOMAS LATHROP STEDMAN, A.M., M.D., Editor of the *Twentieth Century Practice of Medicine and the Reference Handbook of the Medical Sciences*; Formerly, Editor of the *Medical Record*; and STANLEY THOMAS GARBER, B.S., M.D., *Fourteenth Revised Edition*, with *Etymologic and Orthographic Rules*, Baltimore: The Williams and Wilkins Company, 1939. Price, \$7.00; with thumb index, \$7.50.

WITHIN the 1,300 pages of Stedman's may be found every word in use in medicine and its allied fields today. More than 15,000 medical, surgical, pharmaceutical, dental, veterinary, and chemical terms are defined and, in some cases, illustrated. The physician who is puzzled by the meaning of a word in a book or article can find its definition within a minute. Thus he can keep his study time serene and his blood pressure down when he finds an author using such words as arthrosis (stricture of the rectum) or genyantritis (inflammation of maxillary sinus).

Obsolete illustrations have been removed; two new color plates and the Oath of Hippocrates have been added. Revision has been well done, including the many recently isolated hormones, vitamins, and chemical compounds used in treatment. All changes made in the first supplement to the U. S. Pharmacopeia have been noted.

A handy appendix provides (1) a table of drugs, with doses and uses; (2) tables and descriptions of various weights and measures, including comparative temperature scales (Fahrenheit, centigrade, Reaumur, and absolute); (3) a full table of the microparasites which are pathogenic for man and animals, including synonyms, staining characteristics, cultural characteristics, pathogenicity and mode of infection; and (4) the new nomenclature, in Latin and English, of anatomic terms. The last named presents, in three parallel columns, the Latin term, the British Anatomical Society's nomenclature, and the Basle anatomical nomenclature (BNA), so that any desired term may be instantly compared, for accuracy and identification.

The up-to-date physician must have a modern dictionary as a working tool, or he soon loses touch with medical progress. Stedman's is a reliable modern medical dictionary.



Headache

Dutton

HEADACHE AND HEAD PAINS. A Ready Reference Manual for Physicians. By WALTON FOREST DUTTON, M.D., Formerly Medical Director, Polyclinic and Medico-Chirurgical Hospitals, Graduate School of Medicine, University of Pennsylvania; Visiting Physician to the Northwest Texas Hospital and St. Anthony's Hospital; Director, Medical Research Laboratories, Amarillo, Texas. Philadelphia: F. A. Davis Company, 1939. Price, \$4.50.

APPARENTLY this book is a compendium containing material taken directly from various sources in medical literature. These books are standard works on surgery, medicine, therapeutics, et cetera, which are in most physicians' offices; but correlations of scattered information possess some value.

In alphabetical order, the various diseases that may cause headache (acromegaly, actinomycosis,

acute sinusitis, acute parotitis, and so on) are listed, each with a few paragraphs discussing the condition and the author's ideas on treatment. Very little information is given on diagnosis, so that the physician is still bewildered as to any logical method of finding out which disease is the cause.

Much of the material on therapy is antiquated or incorrect. In the treatment of Addison's disease, we read, "We have not yet reached the stage where any of these extracts (cortical) may be used successfully in treating Addison's disease." Cod liver oil injections and injections of glycerophosphate compounds are recommended. Recent research has been overlooked in many sections. In the discussion of actinomycosis, Wangenstein's remarkable results with total excision are not stated, and autogenous vaccine is lauded.

The section on constipation and its management, and that on enemas, are excellent. A discussion on local and spinal anesthesia is included. All in all, it is a rather disappointing book on a subject that needs much study.

R. L. G.



Industrial Hygiene

Chenoweth and Machle

INDUSTRIAL HYGIENE. A Handbook of Hygiene and Toxicology for Engineers and Plant Managers. By LAURENCE B. CHENOWETH, A.B., M.D., and WILLARD MACHLE, B.S., M.D. With a Foreword by HERMAN SCHNEIDER, Sc.D., LL.D. New York: F. S. Crofts & Co, 1938. Price, \$2.00.

INDUSTRY has now recognized that the protection of the life and health of employees against the special hazards of modern manufacturing methods is "good business," and industrial hygiene is filling an increasingly important place.

This is, primarily, a book for students and practitioners of industrial engineering, and for plant managers; but it will also be of interest to many physicians who are specializing in industrial work.

Among the 15 chapter headings are: Industrial Accidents; Fatigue; Health Service in Industry; Dust Diseases; Industrial Neuroses and Malingering; etc. An appendix deals with bandaging, splinting, artificial respiration, transporting the injured, etc. The index is adequate and the book-work satisfactory.



Child Psychiatry

A SURVEY OF CHILD PSYCHIATRY. Contributed by Contemporary British Authorities. Edited on behalf of the Child Guidance Council by R. G. GORDON, M.D., D.Sc., F.R.C.P., Ed. New York: Oxford University Press, 1939. Price, \$3.50.

THIS symposium of lectures by an outstanding group of English scholars gives a comprehensive survey of the field of child psychiatry with its allied interests, the physical and mental illnesses and general social aspects. The lectures are grouped under four main divisions and are prefaced by a chapter on the physiologic approach to psychiatric problems.

The first section deals with problems related to physical illnesses and includes the mental accompaniments of epidemic encephalitis and epilepsy, "Psychology of Juvenile Rheumatism," and "Mental Disorders Associated with Biochemical and Metabolic Disturbances." Endocrine disturbances and vitamin deficiencies also find a proper place here.

Following this is a group of lectures devoted to problems related to mental illness, and here attention is given to such topics as psychoses, hysteria, anxiety, and obsessional and compulsive states in childhood. One chapter deals with "Conduct Disorders in Mental Defectives," and another with the "Medical Aspects of Backwardness."

With reference to the social aspects of the study, home incidents and attitudes incorporated in the parental plan are carefully considered, with pertinent suggestions as to how more harmonious adjustment may be achieved. School relations are discussed under physical and mental ill health, and an evaluation of various educational and mental tests is given.

The concluding lectures on special syndromes,

with reference to enuresis and fecal incontinence, stammering, sleep disorders, and sexual deviations, serve to give a well-rounded presentation of the studies attempted in this volume.

Throughout, special consideration has been given to the medical aspects of child psychology and its wide scope; and therefore that the child psychiatrist should be well-trained in general medicine.

The concise form in which the material of this volume is presented has not detracted from its fundamental informational stock in any way, and it may well find a place in every medical and educational library.

A. N.

Pioneers in Acute Abdominal Surgery

Cope

PIONEERS IN ACUTE ABDOMINAL SURGERY. By ZACHARY COPE, B.A., M.D., M.S., LOND., F.R.C.S. (ENG.), Surgeon to St. Mary's Hospital, Paddington; Senior Surgeon to the Bellingbroke Hospital, Wandsworth Common; Late Hunterian Professor and Arris and Gale Lecturer, Royal College of Surgeons, London; Oxford University Press, Humphrey Milford, 1939. Price, \$1.75.

DR. COPE has carried out a routine job of looking up the first surgeons to perform each type of surgical procedure for acute abdominal diseases, such as volvulus, intussusception, stricture of the colon, perforative peritonitis, ruptured ectopic pregnancy, etc., and printing the comments made at the time, either by the surgeon or onlooker, together with a running commentary of his own. In addition, a table is furnished which lists successive dates, from 1556, when Pierre Franco published the first recorded description of an operation for strangulated hernia, through the centuries until 1895, when Paul recorded an account of a successful colonic resection and the use of Paul's tubes. This chronologic table will save much time in consulting references, for those who will need this data in writing future articles and books.

The material has been presented in a straightforward, matter-of-fact way and without a definite attempt being made to paint in the whole

picture. One does not have the "feel" of the times, it is much as if the history of Europe were made up of a few notes taken directly from military leaders' accounts of battles alone, with no note being taken of events which led up to them or of other men who figured in the outcome. Surgery is more than the performance of a technical procedure.

We look in vain for any information as to diagnosis, and Murphy's name is not mentioned, though he was the first to establish diagnostic criteria that have stood up under the test of time. To mention a number of men who plunged into the belly, knowing little of what they were looking for and less of what to do when they found it (if they could), seems to place a premium on bravado rather than on brains. As some English author has written, it is not a sign of bravery to jump headlong into an operation, as the surgeon endangers the patient's life not his own.

History of Chemical Elements

Weeks

DISCOVERY OF THE ELEMENTS. By MARY ELVIRA WEEKS, Associate Professor of Chemistry, University of Kansas; with Illustrations Collected by F. B. DAINES, Professor of Chemistry, University of Kansas. Fourth Edition. Enlarged and Revised. 470 Pages. Easton, Pa.: Journal of Chemical Education. 1939. Price, \$3.00.

THIS collection of concise biographical sketches of the discoverers of the elements, and brief description of the latter, their characteristics, and scientific and practical utilization, constitutes fascinating as well as highly instructive reading. The two subjects of chemistry and electricity are so intimately related that a study of either one necessarily implies an interest in the other.

The numerous illustrations of old and rare prints depicting ancient places and buildings historically associated with many of the scientific discoverers, and the portraits of the men themselves, add considerably to the interest of the text.

J. E. G. W.

New Books Received

The following books have been received in this office and will be reviewed in our pages as rapidly as possible.

INJURIES OF THE SKULL, BRAIN AND SPINAL CORD. Neuro-Psychiatric, Surgical and Medico-Legal Aspects. Edited by SAMUEL BROCK. Baltimore: The Williams & Wilkins Company. 1940. Price, \$7.00.

ILLUSTRATIONS OF SURGICAL TREATMENT. Instruments and Appliances. By ERIC L. FARQUHARSON, M.C., M.D., Ch.M., F.R.C.S.E. Baltimore: The Williams & Wilkins Company. 1939. Price, \$6.50.

COMBINED TEXTBOOK OF OBSTETRICS AND GYNECOLOGY. For Students and Medical Practitioners. Revised and Rewritten by J. M. MUNRO KERR, LL.D., M.D., F.R.F.P.S. (GLAS.), F.R.C.O.G. 3rd Edition. Baltimore: The Williams & Wilkins Company. 1939. Price, \$12.00.

SAVILL'S SYSTEM OF CLINICAL MEDICINE. Dealing with the Diagnosis, Prognosis and Treatment of Disease for Students and Practitioners. Edited by AGNES SAVILL, M.D., and E. C. WARNER, M.D., F.R.C.P. 11th Edition. Baltimore: William Wood & Company. 1939. Price, \$9.00.

SHOCK. Blood Studies as a Guide to Therapy. By JOHN SCUDDER, M.D., Med.Sc.D., F.A.C.S. Philadelphia: J. B. Lippincott Company. 1940. Price, \$5.50.

CLINICAL TOXICOLOGY. By CLINTON H. THIENES, M.D., Ph.D. Philadelphia: Lea & Febiger. 1940. Price, \$3.50.

THE MANAGEMENT OF OBSTETRIC DIFFICULTIES. By PAUL TITUS, M.D. 2nd Edition. St. Louis: The C. V. Mosby Company. 1940. Price, \$10.00.

SEXUAL DISORDERS IN THE MALE. By KENNETH WALKER, F.R.C.S., and ERIC B. STRAUSS, D.M., F.R.C.P. With a Foreword by SIR WALTER LANGDON-BROWN, M.A., M.D., D.Sc., F.R.C.P. Baltimore: The Williams & Wilkins Company. 1939. Price, \$3.00.

MANUAL OF DERMATOLOGY. By CARROLL S. WRIGHT, B.S., M.D. Philadelphia: The Blakiston Company. 1940. Price, \$4.00.

THE NEW INTERNATIONAL CLINICS. Edited by GEORGE MORRIS PIERSON, M.D. Vol. I. New Series Three. March, 1940. Philadelphia: J. B. Lippincott Company. 1940. Price, \$3.00, current year, not sold separately; \$5.00, back years.

HEIL HUNGER! Health Under Hitler. By DR. MARTIN GUMPERT. Translated from the German by MAURICE SAMUEL. New York: Alliance Book Corporation. 1940. Price, \$1.75.

MAYBE TOMORROW. A Nurse's Story. By IRENE KROTH. Boston: Meador Publishing Company. 1940. Price, \$2.00.

WORRY AND DISEASE. By EDWARD PODOLSKY, M.D. Emmaus, Pa.: Rodale Press. 1940. Price, \$1.00.

—Medical News—



Passing of the Oldest Practicing Physician

WILLIAM EBERLE THOMPSON was born July 6, 1835, and in 1860 received his Doctorate in Medicine from the University of Cincinnati College of Medicine and Surgery. Immediately thereafter he established himself in general practice at Bethel, Ohio, where he ministered to the sick and suffering for 80 years, passing to his rest on February 18, 1940, lacking only four and a half months of being 105 years old, the last survivor of a family of twelve practicing physicians. One of his grandfathers lived to the age of 105, and the other to that of 97 years.

Dr. Thompson was a fellow of the A.M.A., and continued in active practice until he was stricken by his last illness. Such a man deserves our tribute of admiration and respect.

American Heart Association

THE American Heart Association will hold its sixteenth annual session at the Hotel Roosevelt, New York City, June 7 and 8, 1940 (just preceding the meeting of the A.M.A.). Cardiologists and those who are especially interested in heart disorders should make their plans and reservations promptly. Full information may be obtained by writing to the Association at 50 West 50th St., New York, N. Y.

Army Dental Interns

FOR the first time, dental interns are now being accepted for training in certain Army General Hospitals, their selection being based upon scholastic standing and the recommendations of the deans of dental schools. Moreover, the Chief of the Dental Division, Surgeon General's Office, now has the rank of a brigadier general (the present incumbent is Brig. Gen. Leigh C. Fairbank). There will probably be no vacancies for a year, but dental students who aspire to obtain these appointments will do well to write, at once, to the Surgeon General, U.S. Army, Washington, D.C., for full particulars, so that they can be making arrangements in advance.

Soldiers' Blood Groups

WHEN a soldier is wounded in battle it is not always possible to type his blood, nor that of available donors, so now the Japanese and German armies do that when he is mustered into the military service, and include that information on the identification tag which every soldier wears suspended around his neck, so as to save time in emergencies. Moreover, it has been found that preserved blood, in blood banks, may be safely injected cold (59° to 77° F.), which also saves time and trouble.

Automobile Accidents

PHYSICIANS who are interested in the classified statistics of automobile accidents for 1939, will do well to write to The Travelers Insurance Co., 700 Main St., Hartford, Conn., for a copy of their strikingly graphic brochure, "Smash Hits of the Year," which puts human interest into tables of figures and pictures of some of the smashes. It will be sent free.

A. M. A. Meeting

THE annual meeting of the American Medical Association will be held at various hotels and the Grand Central Palace, New York City, June 10 to 14, inclusive, 1940. It seems scarcely necessary to stress the importance of this meeting and of the meetings of the special societies which are usually held concurrently with it, but it may not be amiss to suggest that it is not too early to make hotel reservations for this meeting and to remind our readers that the second year of the New York Fair—"The World Tomorrow"—will be in progress, so that an opportunity is offered to combine pleasure with business and a needed vacation with necessary professional instruction.



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| 1 The Pneumonic Lung. Its Physical Signs and Pathology. Denver Chemical Mfg. Co. | 27 Reducing Diets and Recipes. Knox Gelatine Laboratories. |
| 6 Dr. Weirick's Sanitarium. Dr. G. A. Weirick. | 31 The Germicidal Efficiency of the Vaporized Cresols of Coal Tar. Vapo-Cresolene Co. |
| 9 Elixir Bromaurate in the Treatment of Whooping Cough and other Persistent Coughs. Report of Cases. (Booklet.) Gold Pharmacal Co. | 33 Foot Weakness and Correction for the Physician. The Scholl Mfg. Co., Inc. |
| 11 Chondroitin; for Treatment of Idiopathic Headache. The Wilson Labs. | 41 Oreton—Male Sex Hormone. Schering Corp. |
| 15 Cough—Its Symptomatic Treatment. Martin H. Smith Co. | 43 Karo Syrup for Infant Feeding. Corn Products Sales Co. |
| 17 Feeding Diabetic Patients. Knox Gelatine Labs. | 44 Appliances for the Mechanical Retention of Hernia. Brooks Appliance Co. |
| 19 Menstrual Regulation by Symptomatic Treatment. Martin H. Smith Co. | 46 Vitafer. A Reconstructive Tonic containing Antianemic Factors with Vitamin B. The National Drug Co. |
| 20 Hyperol. A Utero-Ovarian Tonic and Corrective. Purdue Frederick Co. | 50 Gestasol. The Follicular and Luteinizing Fractions obtained from Human Placentae. The National Drug Co. |
| 21 Gray's Compound. Purdue Frederick Co. | 54 Use of Zinc Borate in Otolaryngology. Hille Laboratories. |
| 22 Feeding Sick Patients. Knox Gelatine Labs. | 78 Argyrol in Urology and Gynecology. A. C. Barnes Company. |
| 25 Clinical Guide for Female Sex Hormone Therapy. Schering Corp. | 91 Adrenal Cortex; for the Treatment of Addison's Disease and Asthenia. The Wilson Labs. |

- 99 A Survey in Two Fields of Medicine. A. C. Barnes Co.
- 100 Neo-Plasmoid. The Modern Solution for the Injection Treatment of Hernia. Farnsworth Labs.
- 111 Argyrol in Ophthalmology. A. C. Barnes Company.
- 123 Resumé of Venereal Therapy. Mallinckrodt Chemical Works.
- 130 Allantoin Ointment 2% in Slow and Non-healing Wounds and in Burns. The National Drug Co.
- 135 Argyrol in Otorhinolaryngology. A. C. Barnes Co.
- 137 Barium Sulfate. Resumé of Use in Alimentary Roentgenology. Mallinckrodt Chemical Works.
- 146 Moru-Quin for Injection Treatment of Varicose Veins. The National Drug Co.
- 148 Ampoule Products for Subcutaneous, Intramuscular, and Intravenous Medication. Associated Physicians Labs.
- 154 Cyclopropane for Anesthesia. Mallinckrodt Chemical Works.
- 155 Alkali or Calcium, Which Shall It Be? Wm. R. Warner & Co., Inc.
- 157 Galatest—A New Micro-Reagent for Instantaneous Detection of Urine Sugar. Requires no laboratory equipment. The Denver Chem. Mfg. Co.
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- 166 The Dowling Treatment. Thirty Years of Observation and Results. A. C. Barnes Co.
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- 174 Peptic Ulcer Dietary. Knox Gelatine Labs.
- 175 Modern Estrogenic Hormone Therapy. Reed & Carnrick.
- 176 Cortinoral. A Standardized Lipid Extract of Adrenal Cortex for Oral Use. The Harrower Lab., Inc.
- 177 The Medicinal Therapy of Hypertension. (Reprint.) Grant Chemical Co.
- 178 A Summary of Useful Data Concerning Chronic Derangements of the Biliary Tract. The Paul Plessner Co.
- 179 Plestrin in Oil. A Standardized Estrogenic Hormone. The Harrower Lab., Inc.
- 180 Diatussin—For the Symptomatic Relief of Whooping Cough. Ernst Bischoff Co.
- 183 Fatigue and the New Way to Avoid It. Knox Gelatine Labs.
- 184 Lobelin-Bischoff — Saves Lives by Direct Stimulation of the Respiratory Center. Ernst Bischoff Co.
- 185 Lydin—Biologically Standardized Male Sex Hormone. The Harrower Lab., Inc.
- 186 New Scarlet Fever Toxin. The National Drug Co.
- 188 Klotogen (Vitamin K Concentrate, Abbott). Abbott Laboratories.
- 189 It has been ever so—. Wm. R. Warner & Co., Inc.
- 190 Behind the scenes in the Preparation of Estrogenic Hormones (R&C). Reed & Carnrick.
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- 192 Actophen—Therapeutic Vitamin D. The Biochemical Research Labs.

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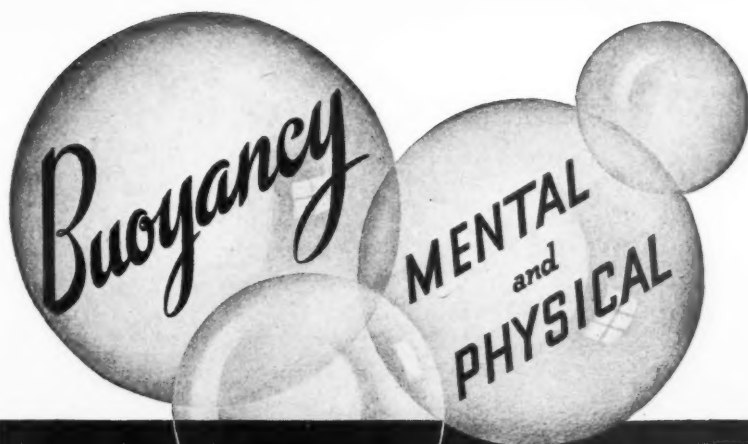
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MALE HYPOGONADISM TREATED WITH ORETON

Since the availability of testosterone propionate (*Oreton*), the physician has made great progress in correcting the physical, mental, and nervous manifestations of male sex hormone deficiency (male hypogonadism).

Turner¹, reporting on a series of 54 hypogonadal patients treated with *Oreton*, states, "Much was also accomplished with respect to the mental attitude of the patients . . . there was a feeling of buoyancy, increased physical and mental activity . . ." He also writes that "Augmentation of the sexual powers was experienced by all patients."

Similar beneficial results from the use of *Oreton* in hypogonadism, as well as in benign prostatic hypertrophy, are reported by Eidelsberg², Kearns³, McCullagh⁴, and Vest and Howard⁵.

For severe cases of male sex hormone deficiency, *Oreton* (testosterone propionate) is available for intramuscular injection. For milder cases, and for maintenance therapy, *Oreton-F* (testosterone) Ointment—(available in individual dose Toplicators)—presents a convenient and effective mode of administering the hormone.

FOR ADDITIONAL INFORMATION, ADDRESS THE MEDICAL RESEARCH DIVISION



1. Turner, H. H.: *Endocrinology* 24:773 (June) 1939. 2. Eidelsberg, J.: *M. Clin. North America* 22:1544 (Sept.) 1938. 3. Kearns, W. M.: *J.A.M.A.* 112:2255 (June 3) 1939. 4. McCullagh, E. P.: *J.A.M.A.* 112:1043 (March 18) 1939. 5. Vest, S. A., Jr., and Howard, J. E.: *J. Urol.* 40:154 (July) 1938.

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